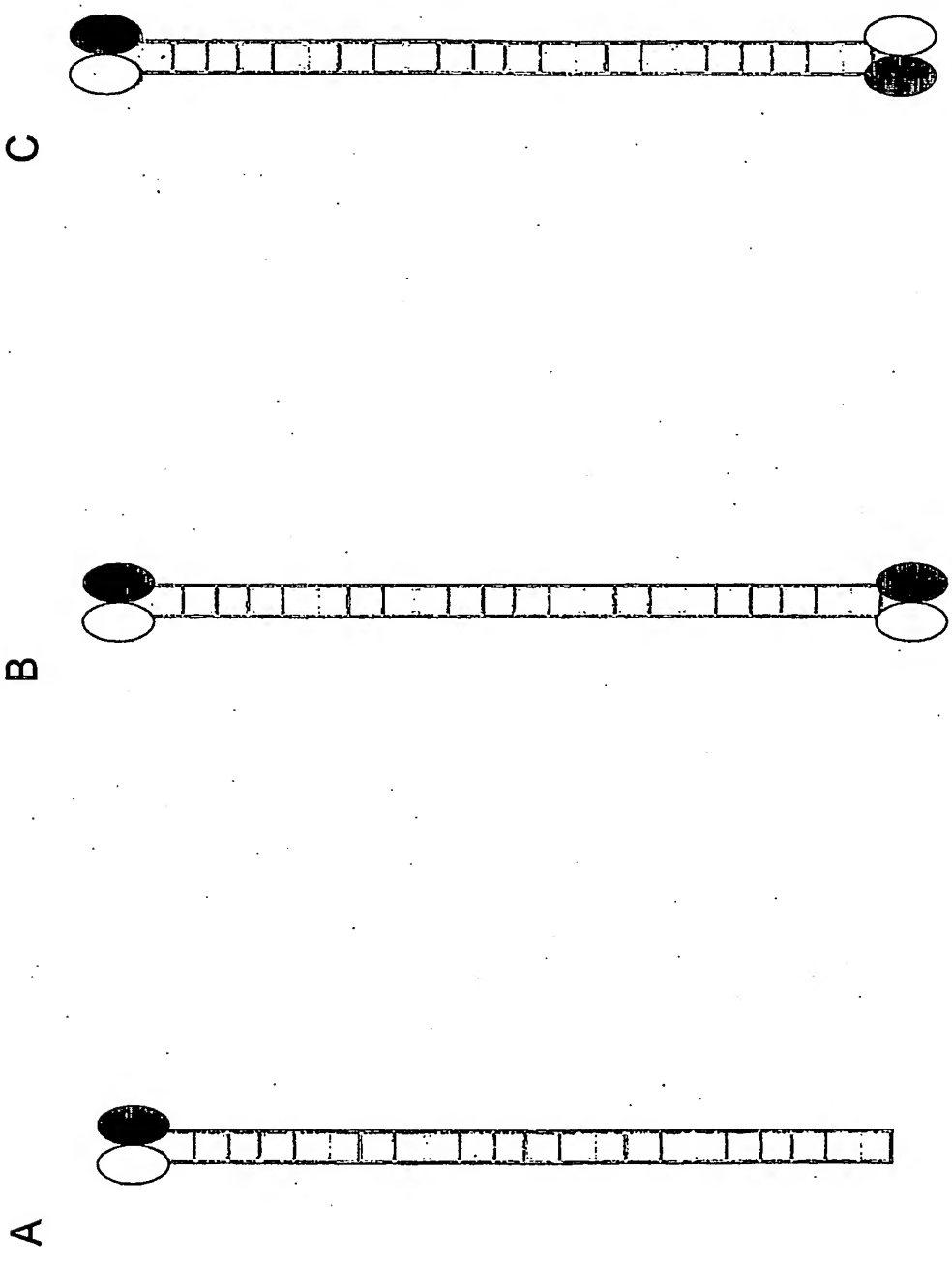


FIG. 1

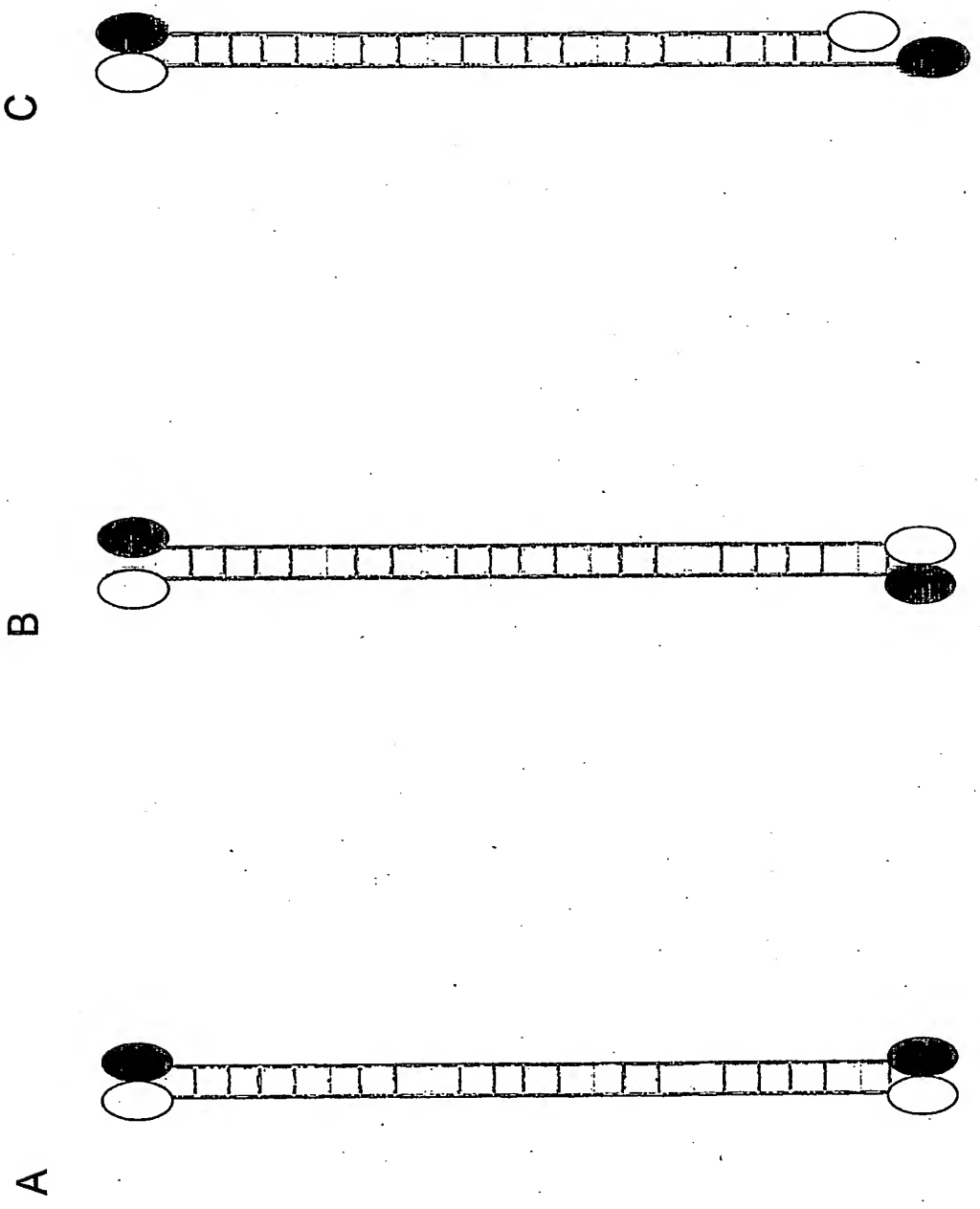


FIG. 2

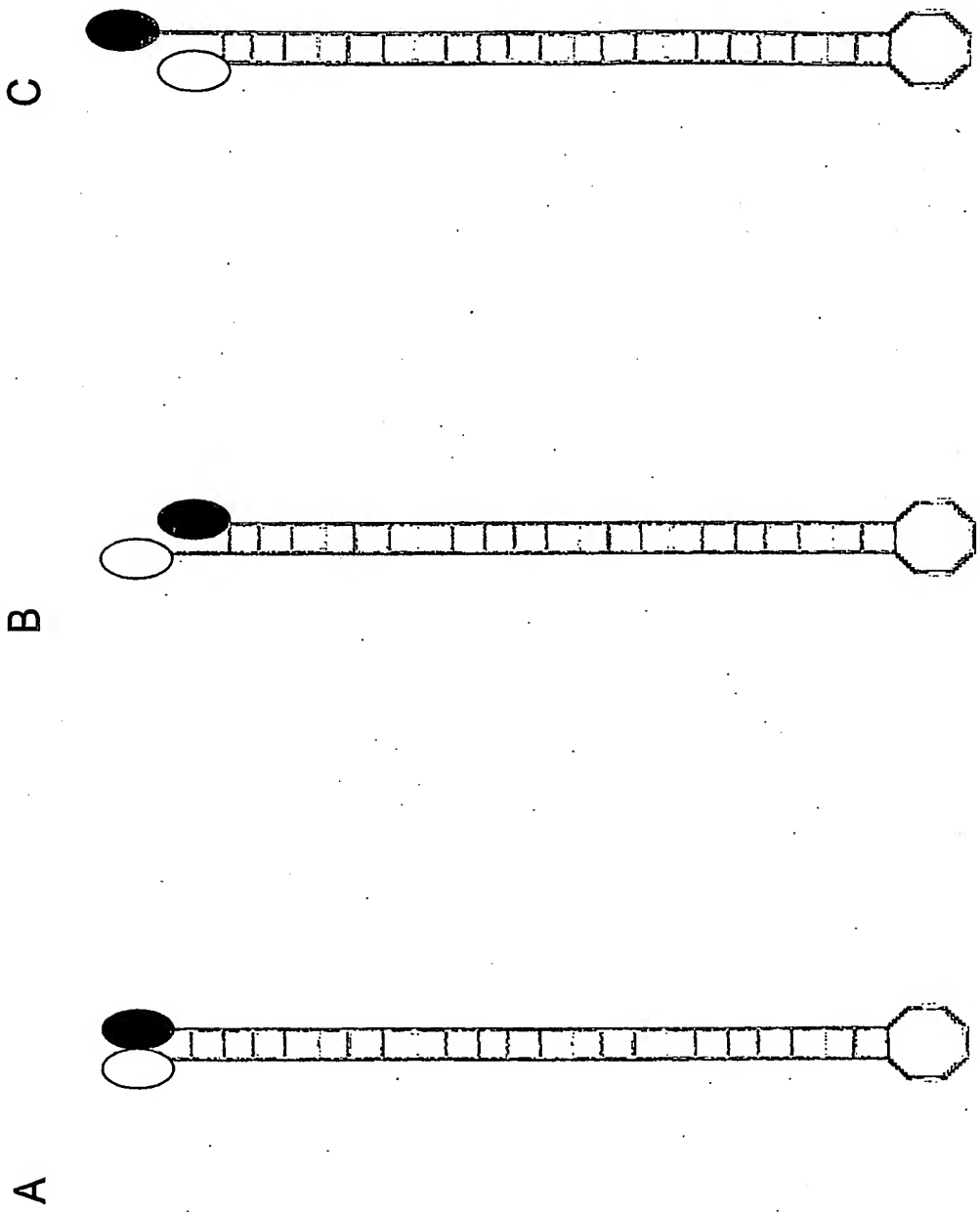


FIG. 3

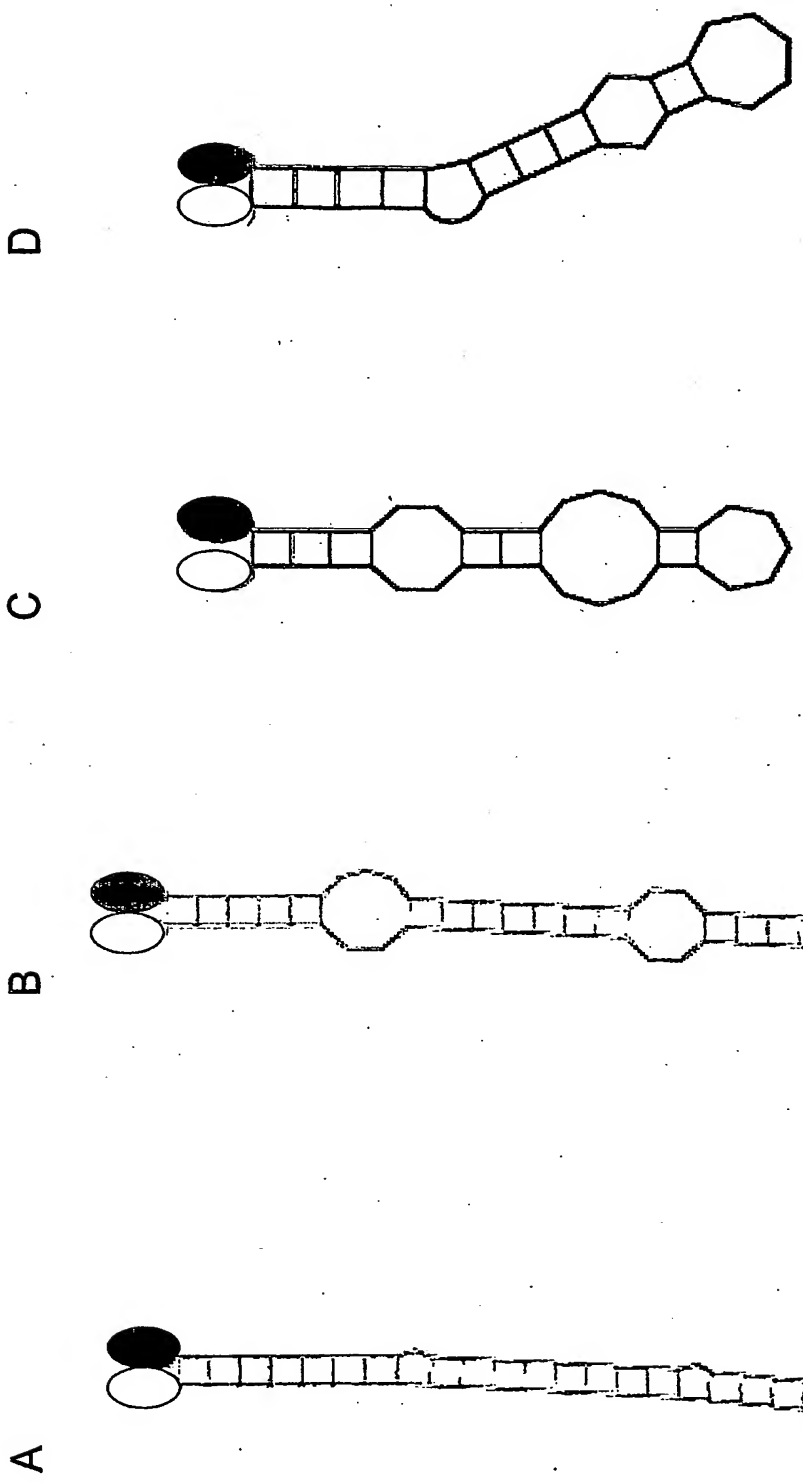


FIG. 4

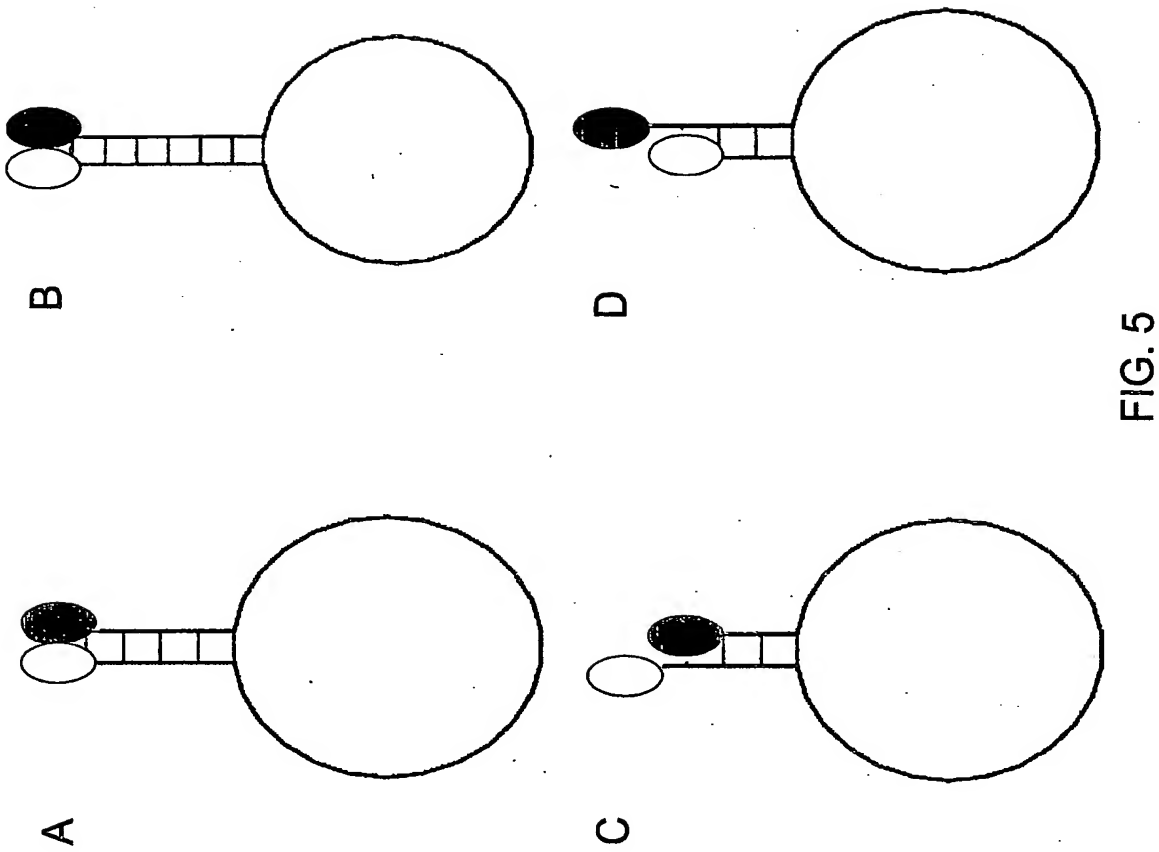


FIG. 5

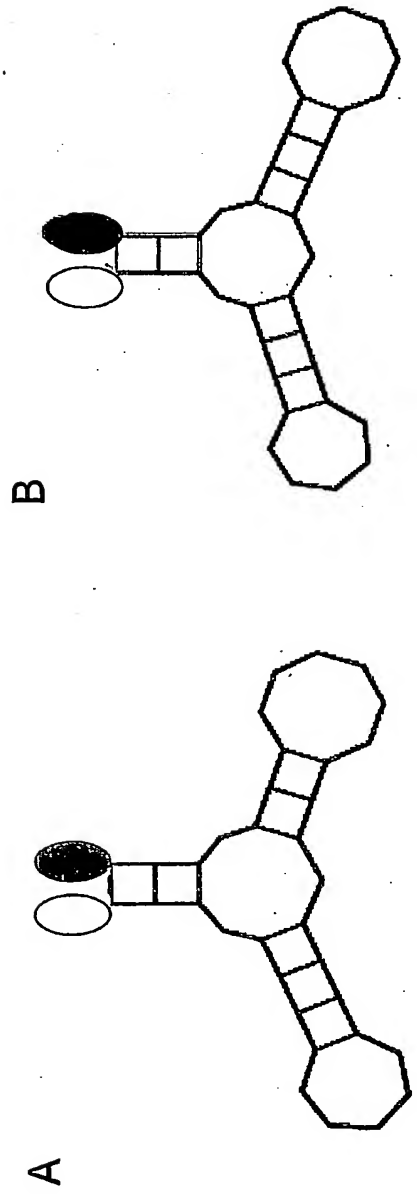


FIG. 6

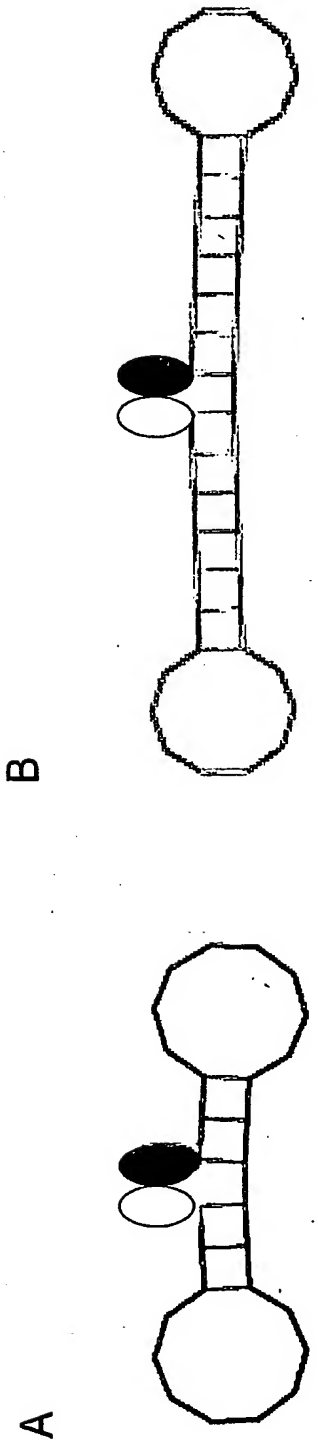
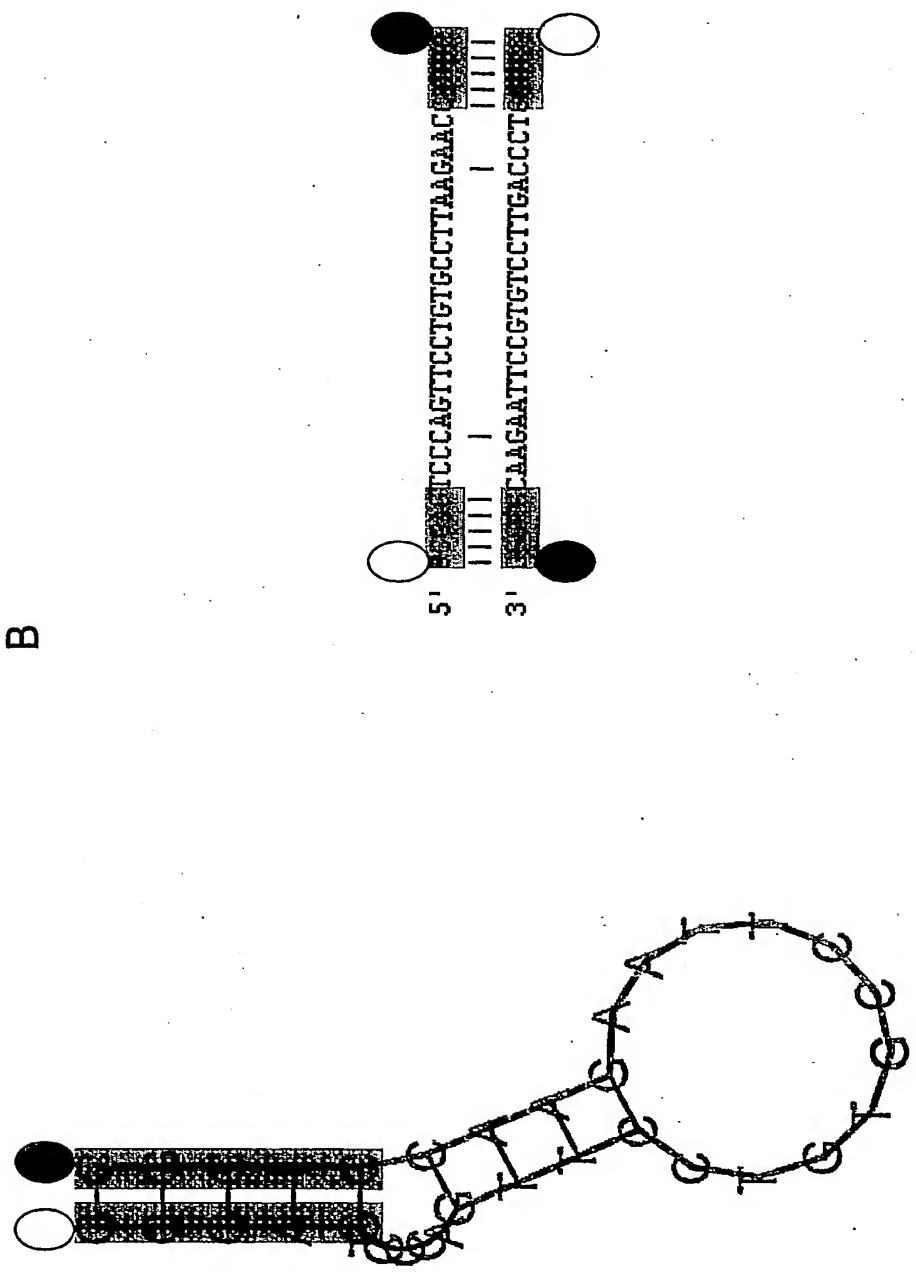
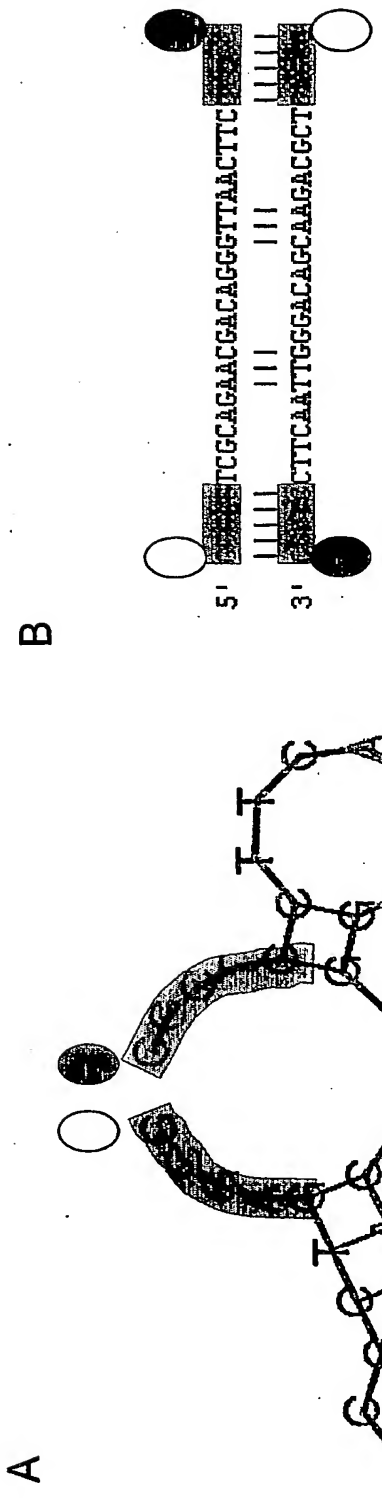


FIG. 7



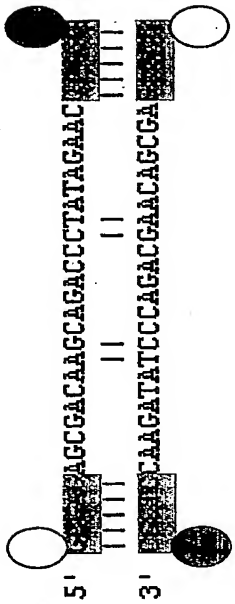
FP1 5' GCGAG TCCCAGTTCCTGTGCCTTAAGAACCTCGC 3'

FIG. 8



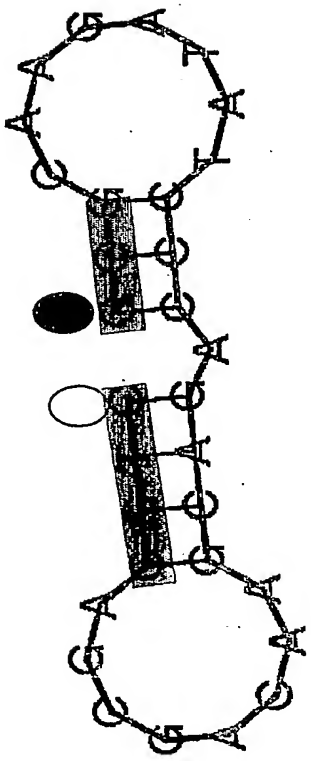
FP2 5' GCGAG TCGCAGAACGACAGGGTTAACTTCCTCGC 3'

FIG. 9



FP3 5' GCGAG AGCGACAAGCAGACCCTATAGAAC CTCGC 3'

FIG. 10



FP4 5' CTGC AGCGACAAGCAGACCCTATAGAAC GGG 3'

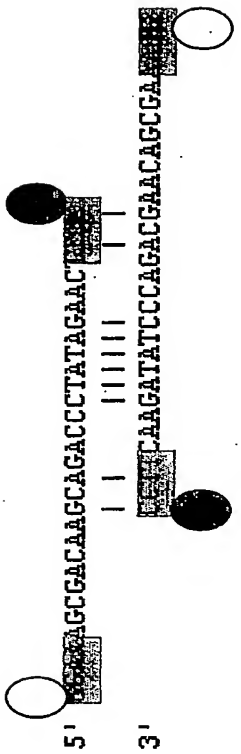
FIG. 11

FP5 5' ggaa TCCCAGTTCCTGTGCCTTAAGAAC ttcc 3'

FIG. 12

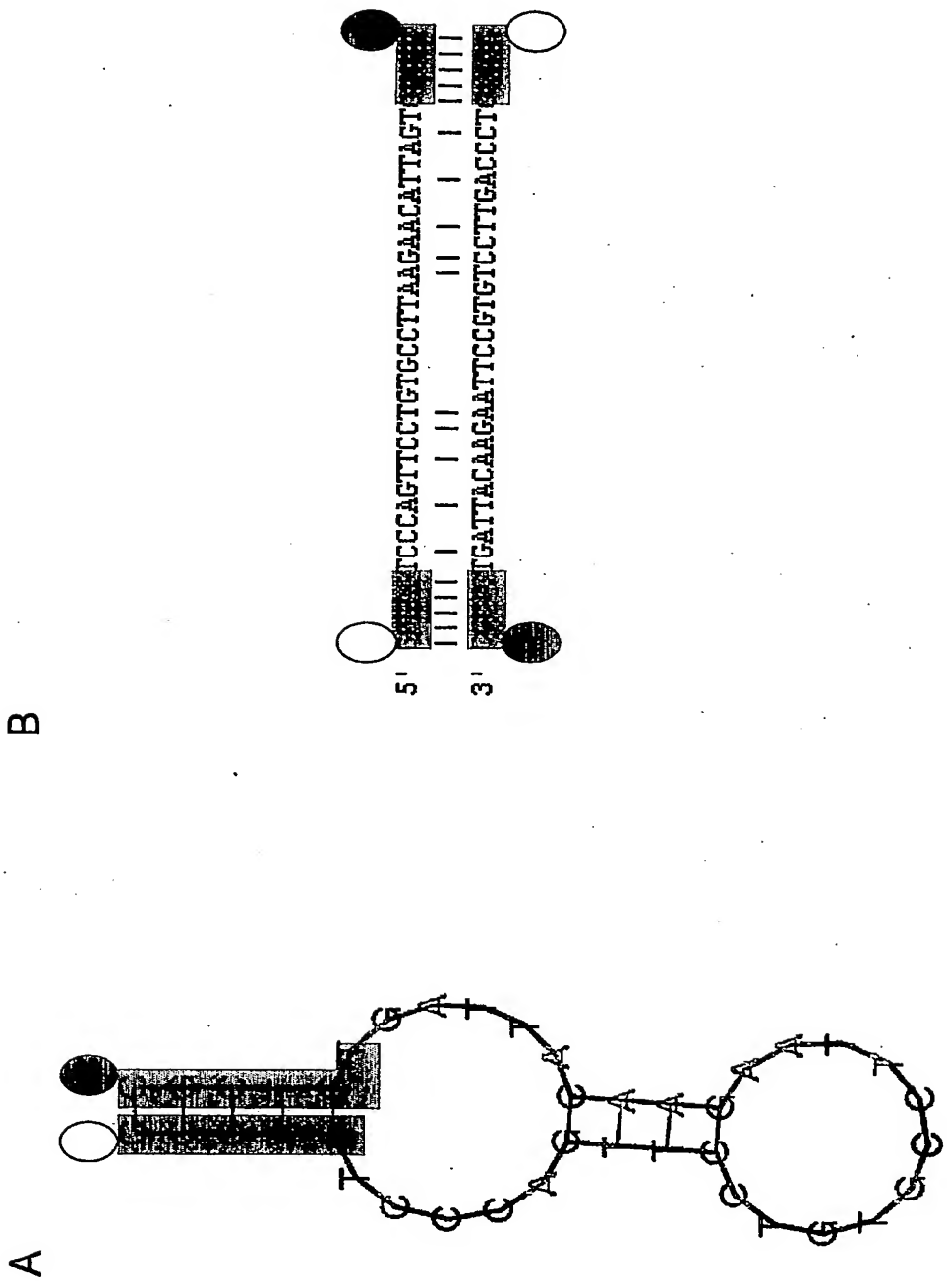
FP6 5' ggaa TCGCAGAACGACAGGGTTAACTTC ttcc 3'

FIG. 13



FP7 5' ggaa AGCGACAAGCAGACCCTATAGAAC ttcc 3'

FIG. 14



FP8 5' GCGAG TCCCAGTTCCTGTGCCTTAAGAACattagtCTCGC 3'

FIG. 15

FP9 5' ggaa TCCCAGTTCCTGTGCCTTAAGAACattagtttcc 3'

FIG. 16

FP10 5' gtgat TCCCAGTTCCTGTGCCTTAAGAAC atcac 3'

FIG. 17

FP11 5' ggac TCCCAGTTCCTGTGCCTTAAGAAC gtcc 3'

FIG. 18

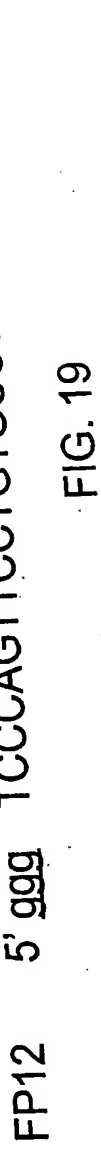
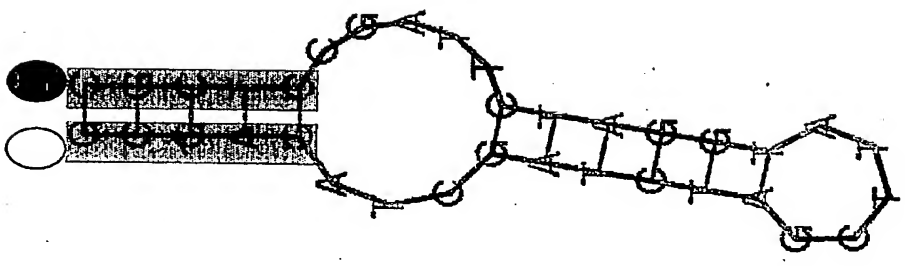


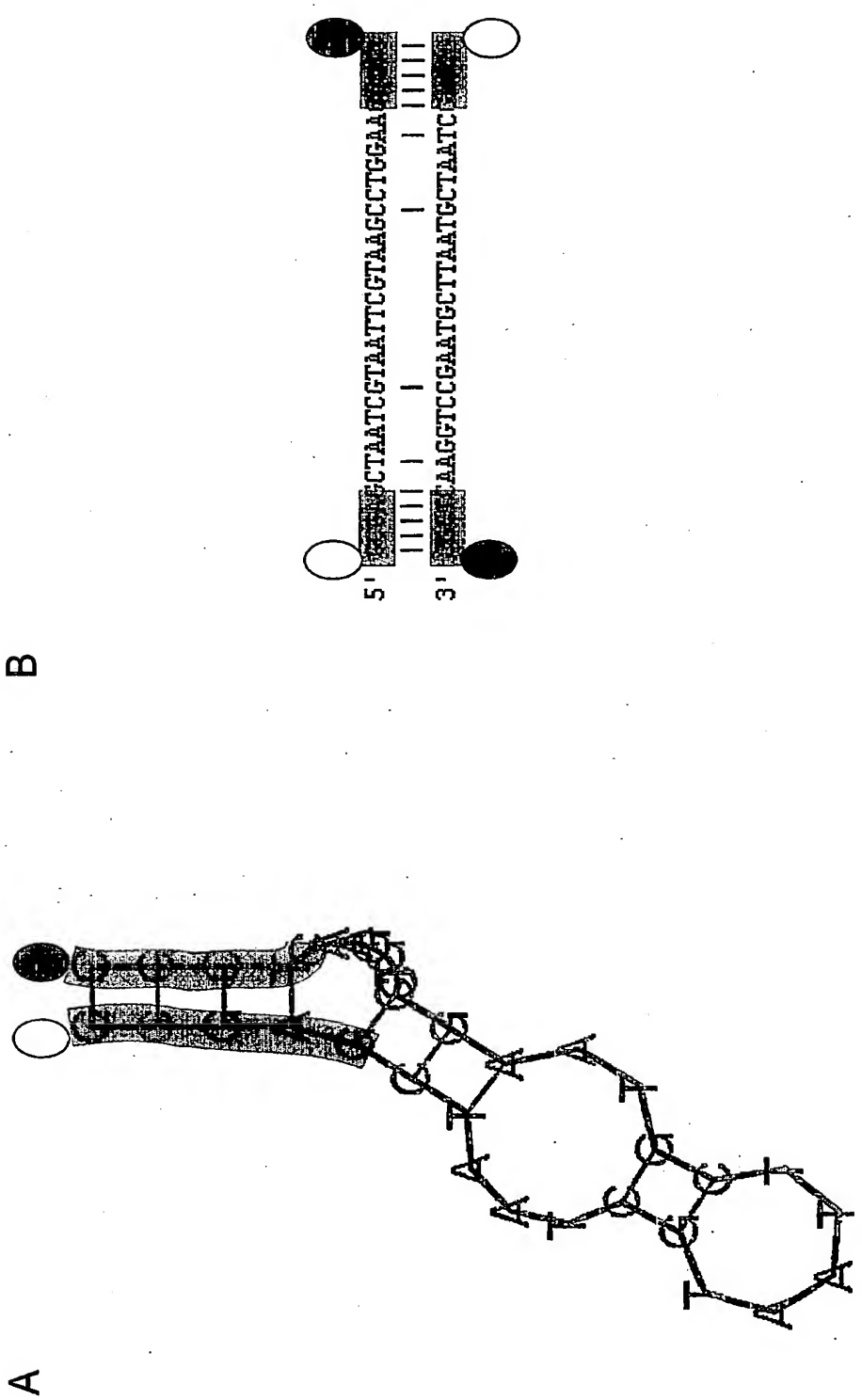
FIG. 19

FIG. 20



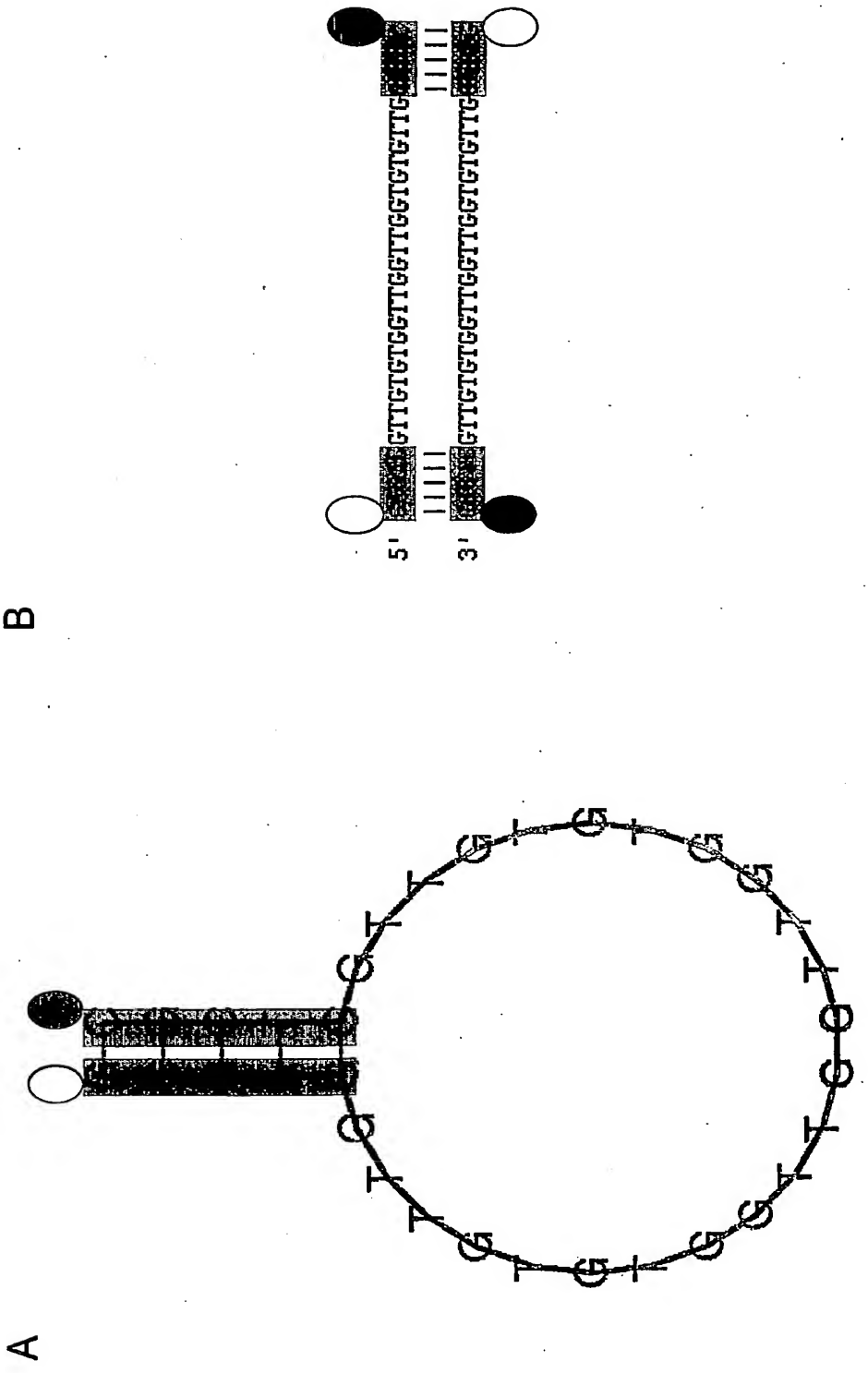
FP14 5' gcgag ATCGATCTAGCTTATGGATCTTAGC CTCGC 3'

FIG. 21



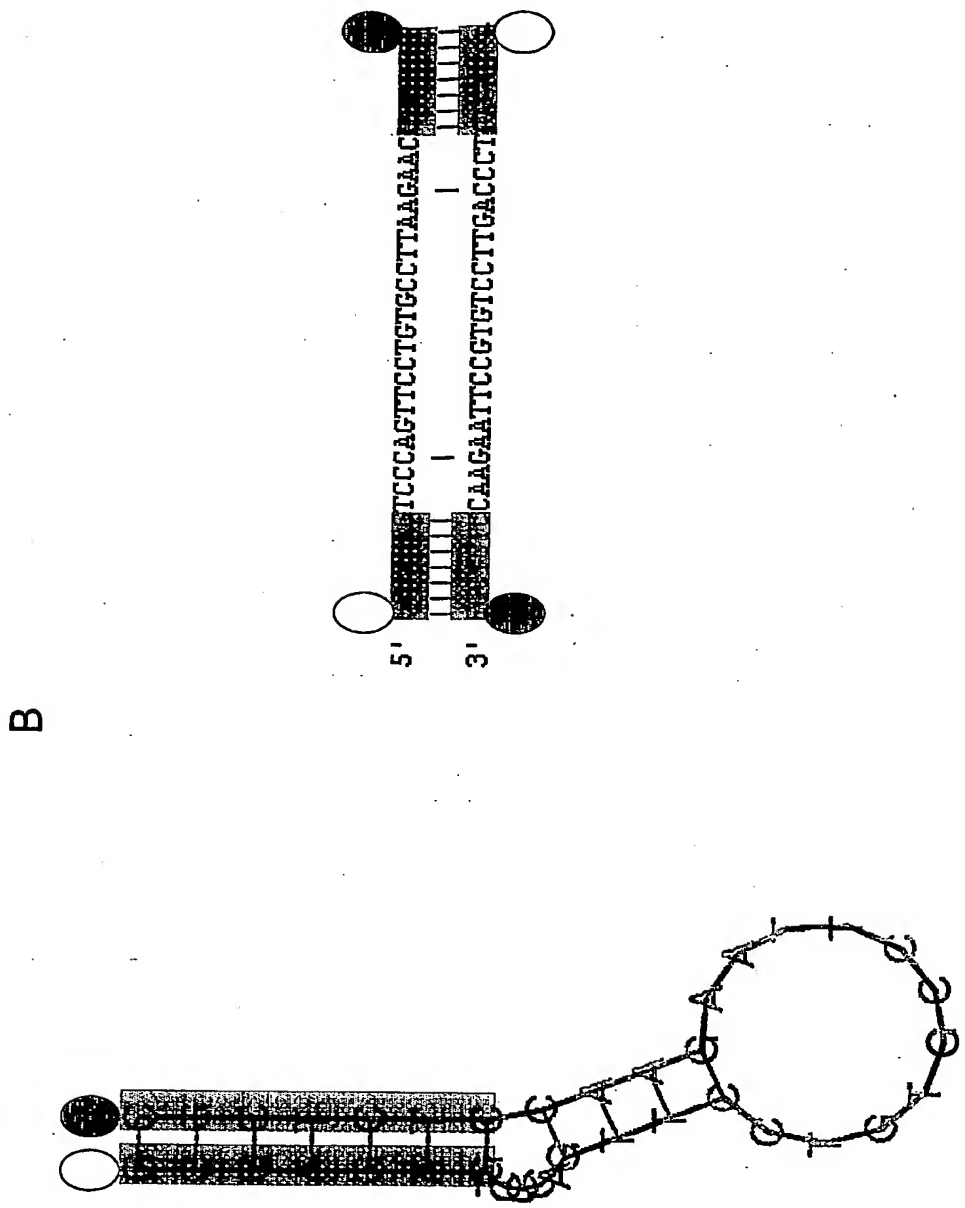
FP15 5' gcgag CTAATCGTAATTCGTAAGCCTGGAA CTCGC 3'

FIG. 22



FP16 5' gcgag GTTGTGTGGTTGGTTGGTGTGTTG ctcgc 3'

FIG. 23



FP17 5' GCGAGAG TCCCAGTTCCTGTGCCTTAAGAAC CTCTCGC 3'

FIG. 24

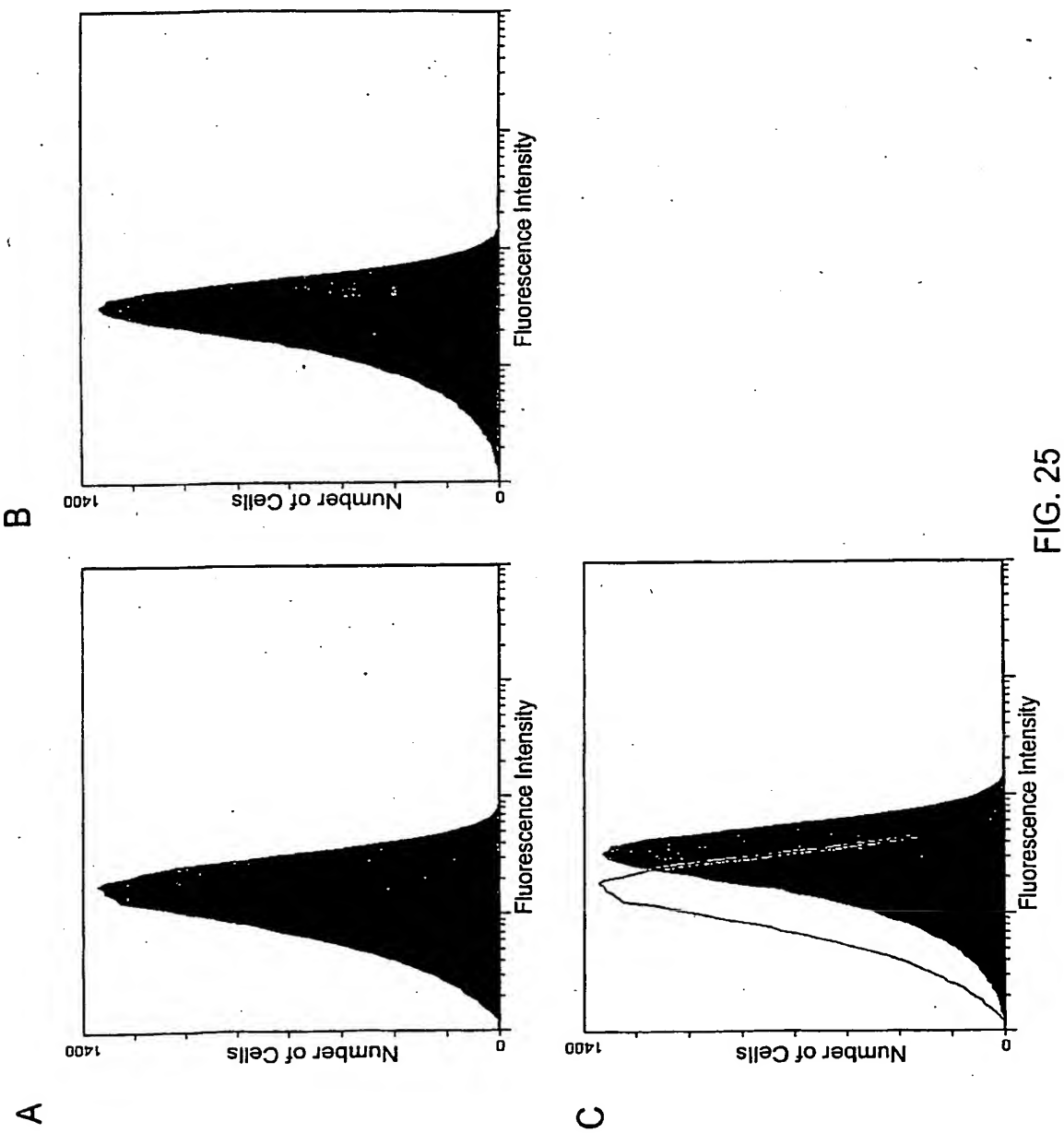


FIG. 25

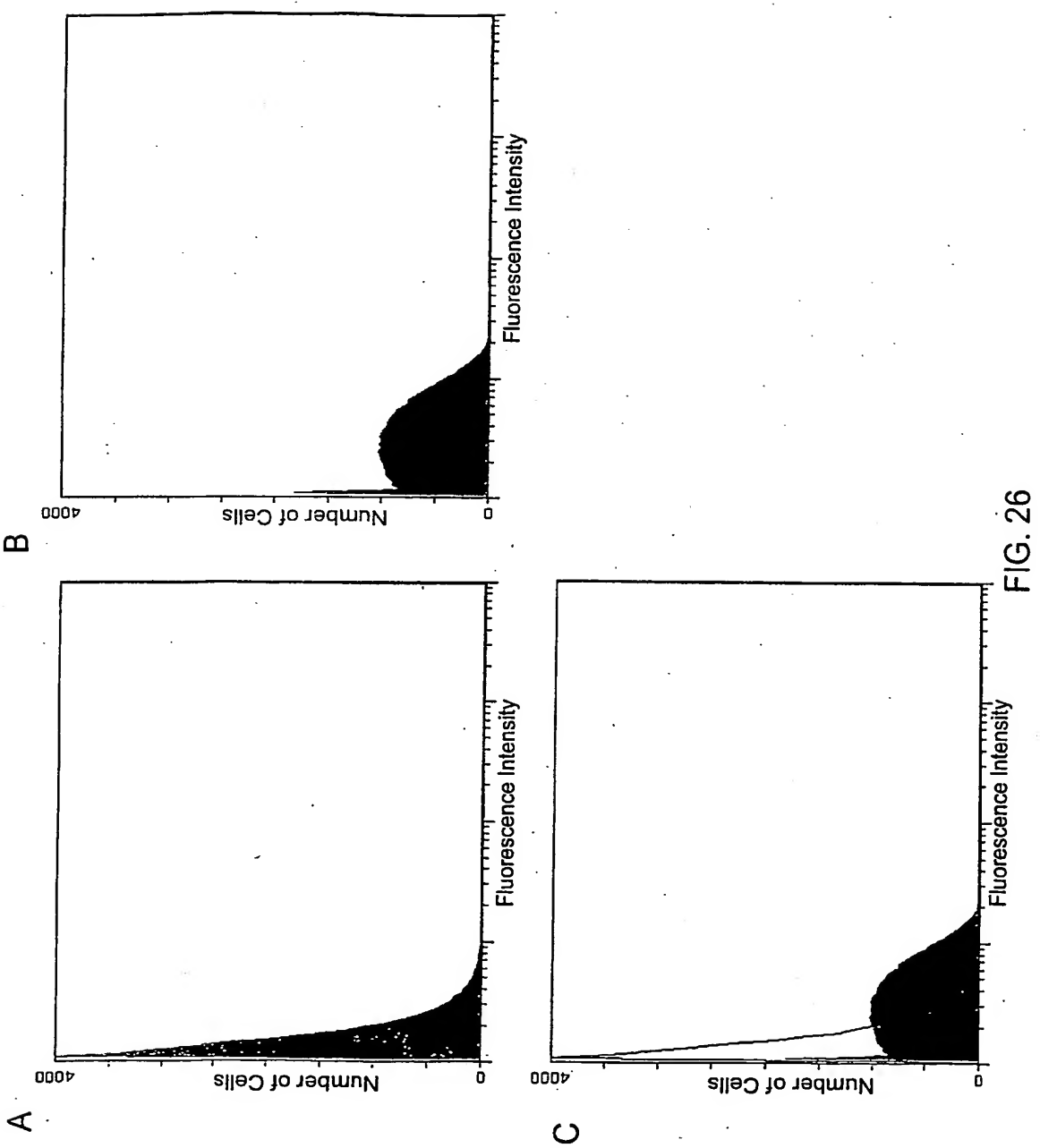
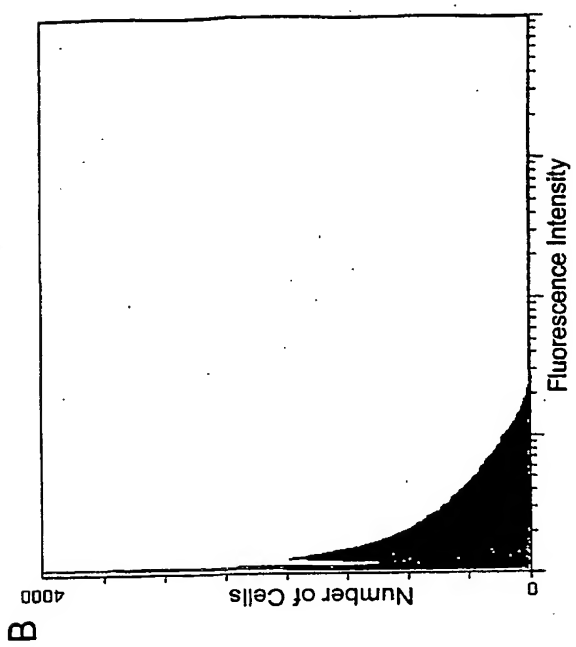
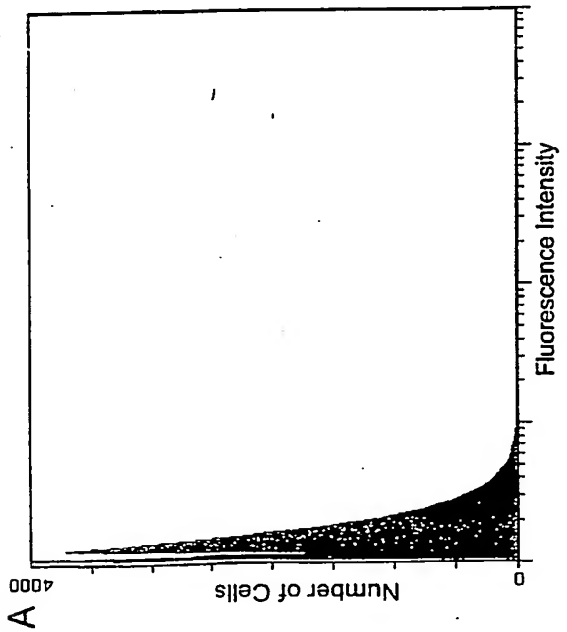

A
Number of Cells
4000
0
Fluorescence Intensity
B
Number of Cells
4000
0
Fluorescence Intensity
C
Number of Cells
4000
0
Fluorescence Intensity

FIG. 26


B
Number of Cells
4000
0
Fluorescence Intensity


A
Number of Cells
4000
0
Fluorescence Intensity

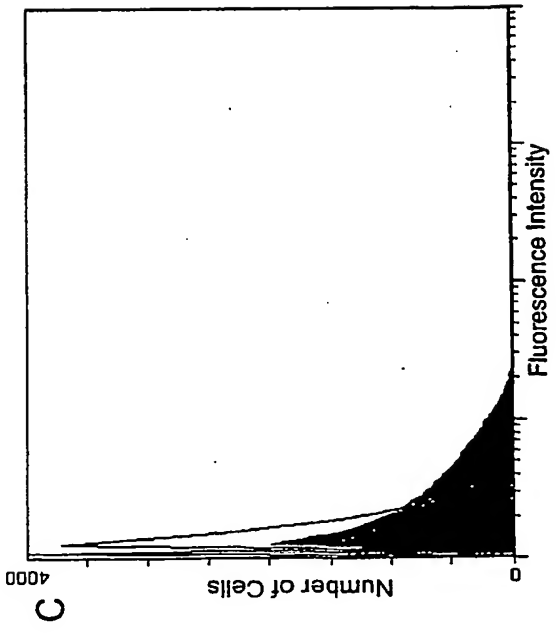

C
Number of Cells
4000
0
Fluorescence Intensity

FIG. 27

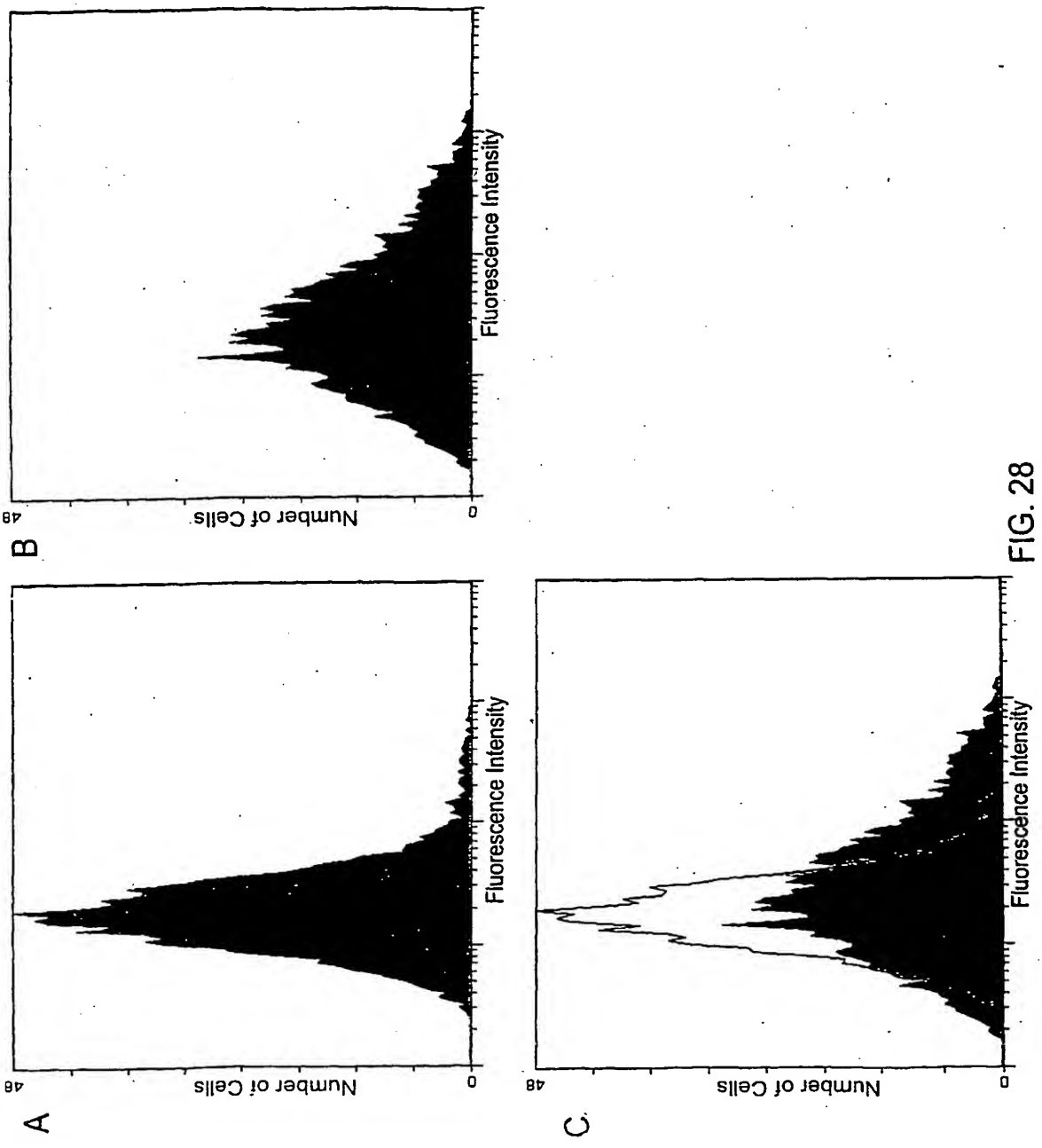

A
Number of Cells
48
0
Fluorescence Intensity
B
Number of Cells
48
0
Fluorescence Intensity
C
Number of Cells
48
0
Fluorescence Intensity

FIG. 28

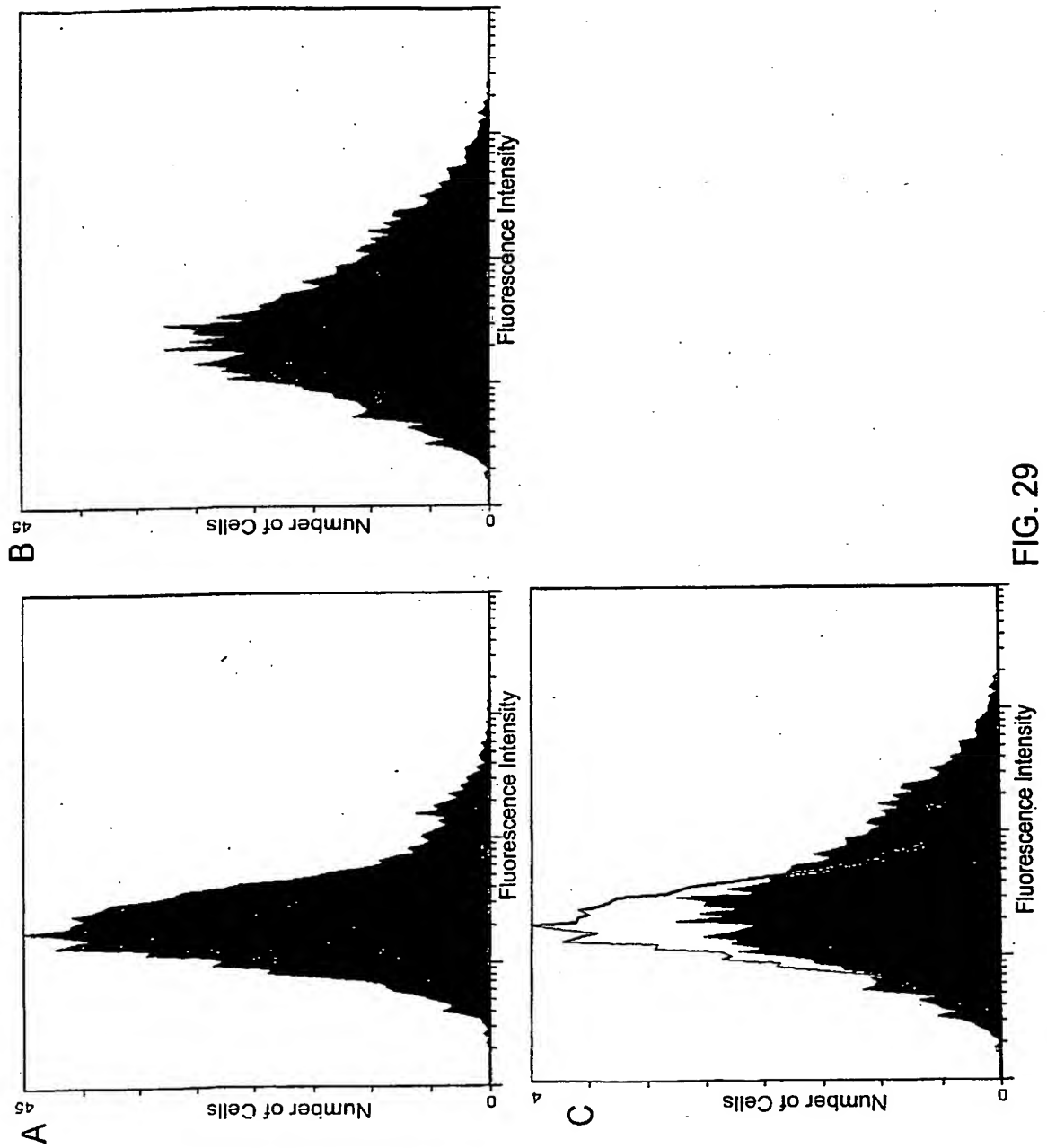
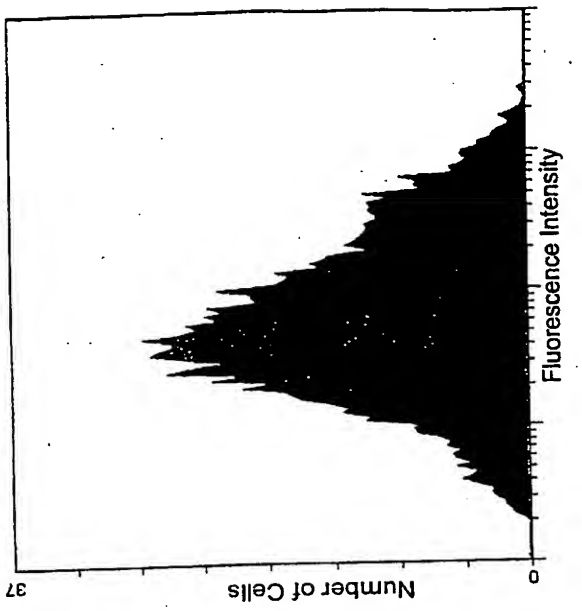
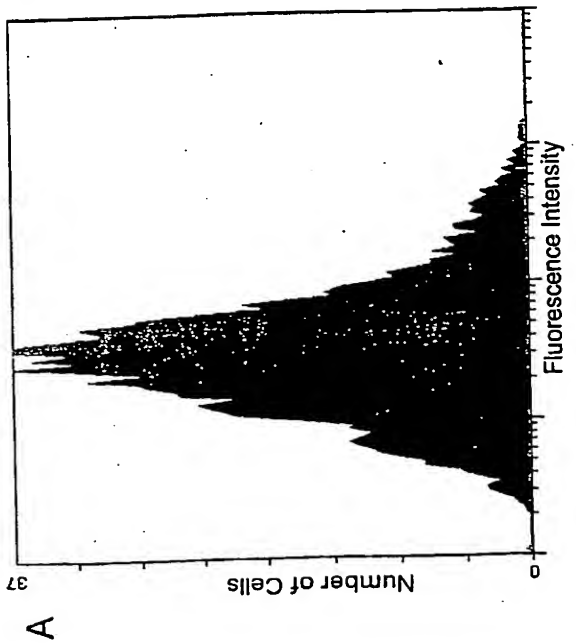


FIG. 29


B
Number of Cells
37
0
Fluorescence Intensity


A
Number of Cells
37
0
Fluorescence Intensity

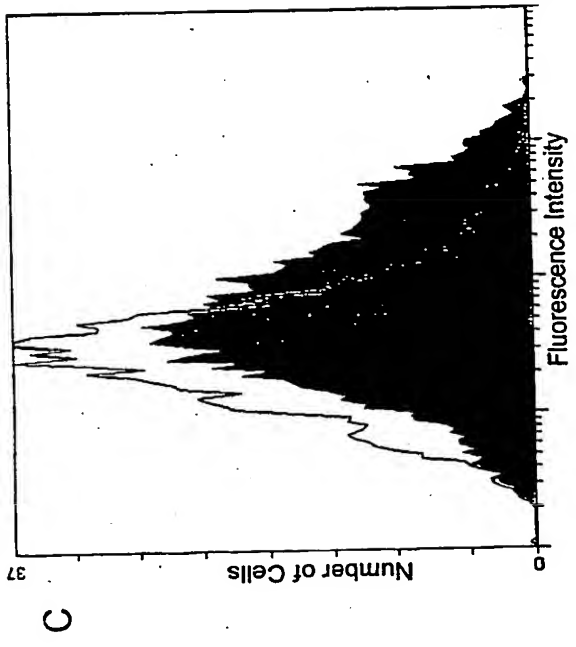

C
Number of Cells
37
0
Fluorescence Intensity

FIG. 30

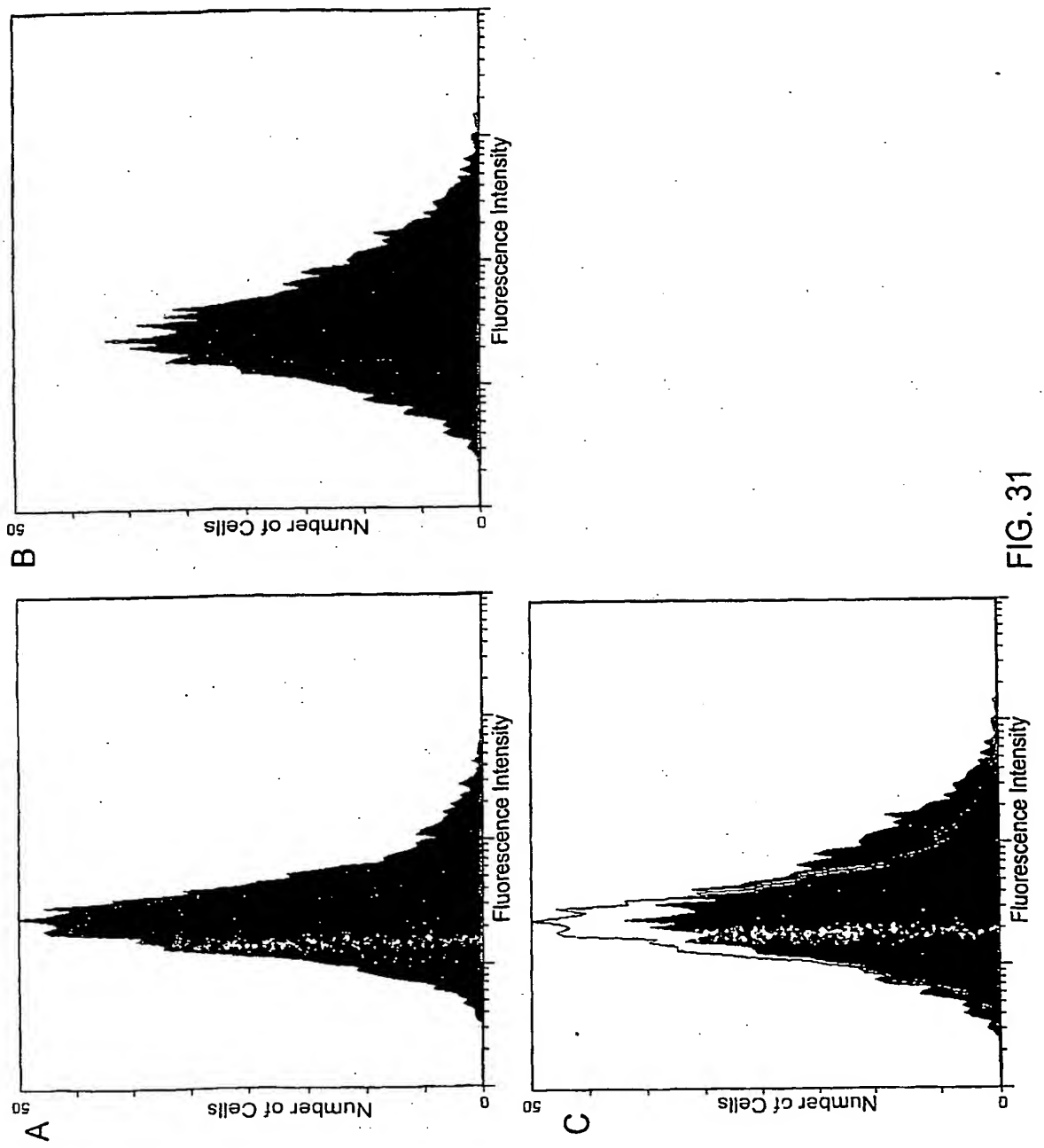


FIG. 31

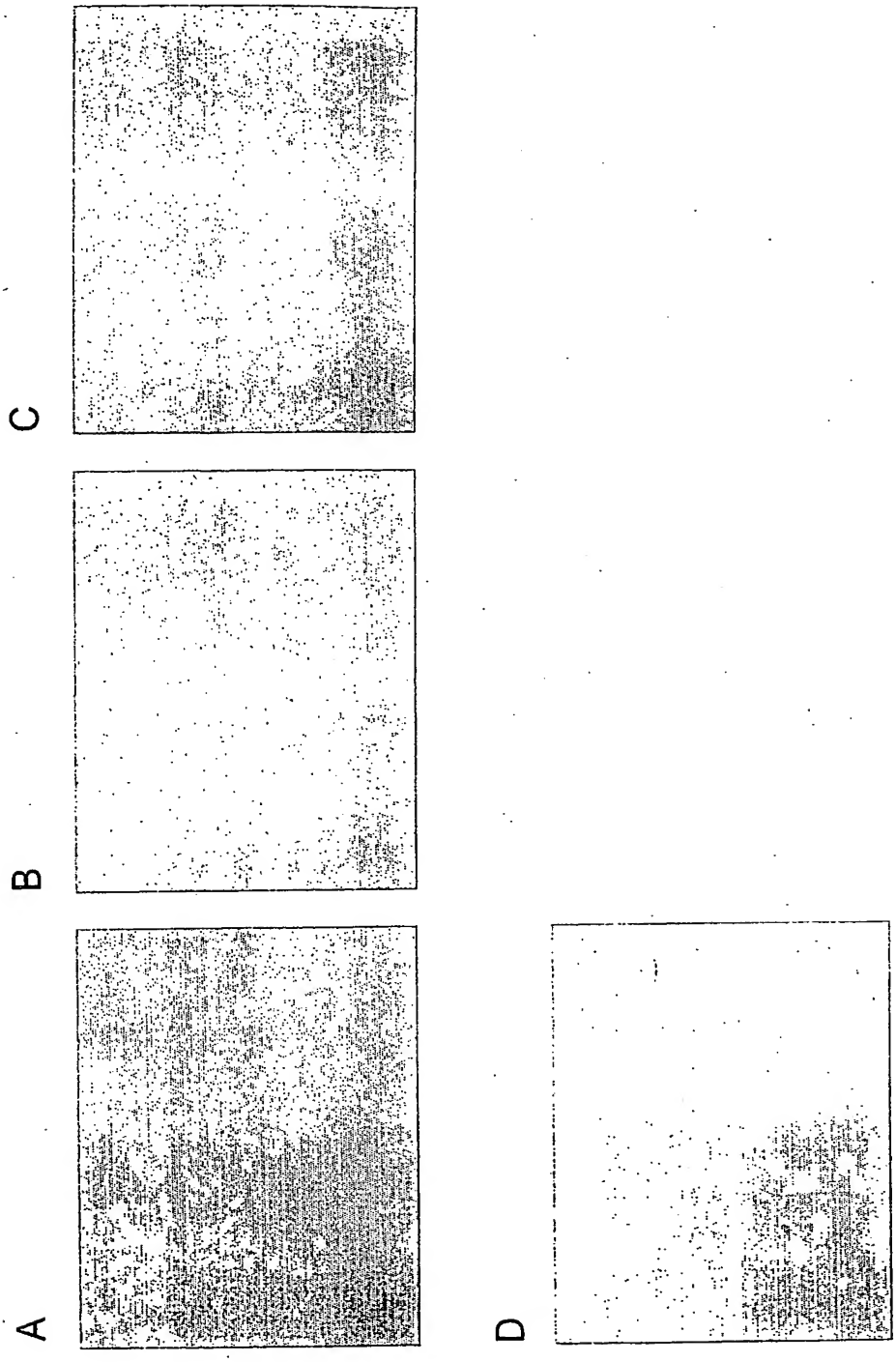


FIG. 32

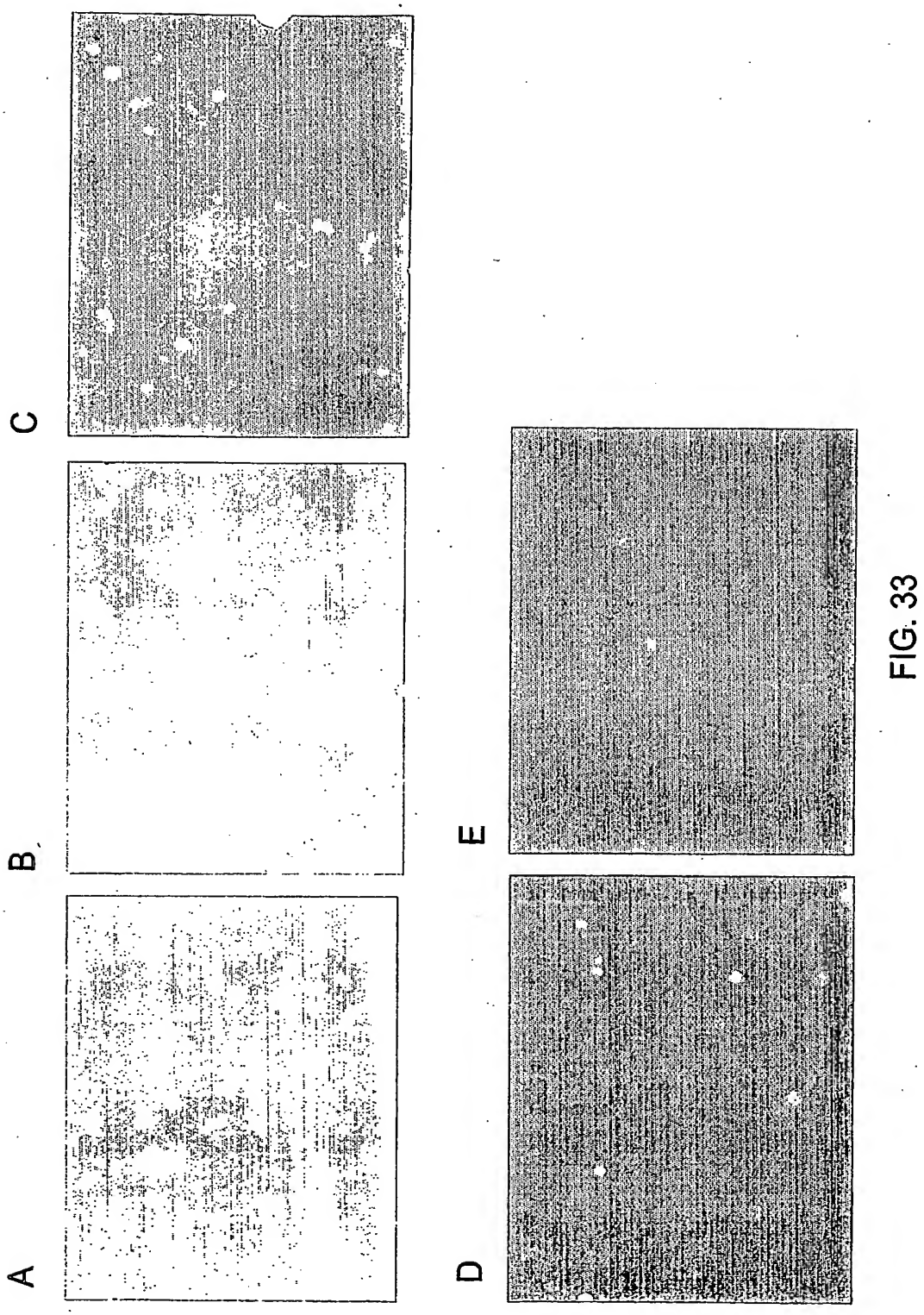


FIG. 33

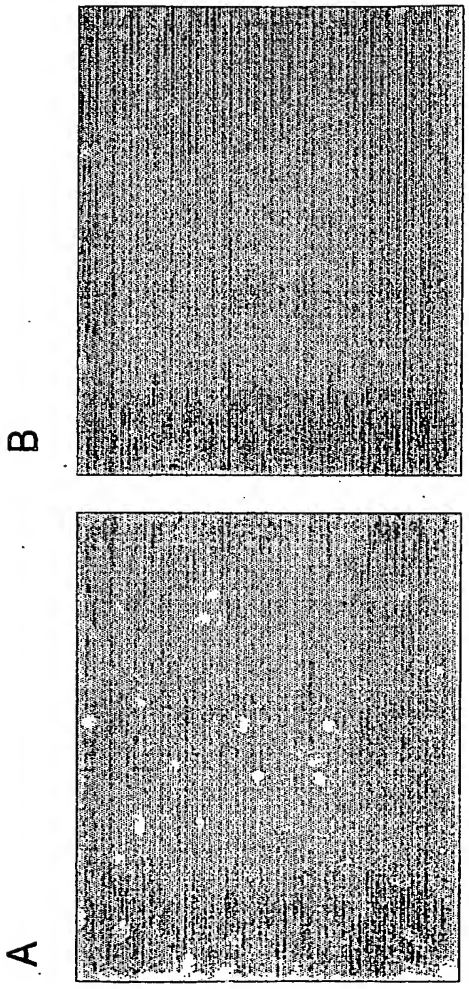


FIG. 34

A

ACCTTGCCAAAATCCTGCACATCGAAGAGGTCAAAGGCTTCGAAGAGCTCGCTCCGCTTGAGGCCGAACTTCTCACA
GCAGGTGGACAGGAAGGTTCTAATGTTCTTAAGGCACAGGAACTGGGACATCTGGGGGCGCAGGTTGACCTCACGCA
GGTTGATGGCATGGGGTAGCAGGTTGTTAAGCAGCTGACACAGAAGGACACCATCCCGGAGGGCCTGGGCCAGTTCA
CACACCTGAGCCCCATCCCAGGTCACGCGGTGGCTGGGCGGCAGCACCCGGCACTGGATGAGCCAGTGGGTGCATTG
GCGCCACAGCTCCATGGCTACCGCCGGTGGGGAAGGGCATGATCCCCCTGTTCTGGGCGATCGGGGTCCAGGACAGA
GCAGACAGGGTGTAGATGCCTCCACCGTGTCGTCGATCTGGTCGGACAGGCCACTGTAGATGTCTTCATCACCTACA
CTCTCCTCCTCATGAGGTCCTCATAGATCTCGTCGCCTTCCGCCTCCTCATTCTCCACGCAGTCATACAGGTCCTCAT
CCTCTCCCGCAGGCAGCAGCAGCGCTTGTCATACTCTGTCATCTTGGGCGGCATGGACACGGGCTCCGAGCGCGCAG
GGGCTTCAAGAAATGCTGCTGGATGGAGCCCAGCGTGTCAGTGTACTTCTCCTCCGTCTGCTGGATGTATGAACACGA
AGCAGGTCCTCAATGTTGATAAAGATGATCTCAATGTCTTGAGGTTTCAGGAACCGTTGATGAAGACCTGGTAGAGAT
TGGCTGCGCCAGGGGTGCCCAGGGCTTCCTTCATCTCCTTTAGGAAGTGACCAGGTGTTTGCTGGCTGACTCCACCTG
GCTGCAGTAGCGGCCATAGACGAGGAACCTCTCCTTGTATTTCCGTTGTTGGCTCTCTGAGAACATTCCTCCAGCTTC
ATCTGCACGTCCTCCCGGGCTGCGGCCACACGGTCTGGAGAAGGAGGTGATATTTGAGAACTCGCTGCATAGGCACC
ATCAGCAGGTCCCGCAGGGTGAACCTCCCCTCATGGCATCCAGGGCCAGCCGCAGGTTCTCCTTCTCCATCGCCTCC
TGCGTGTGTTTCACCAGCTCAGCTGGAAATTGGTGATCTGTCGCAGTGTCTCGTTGTCTCGCTTGACCTCGTTCACGC
ACTGAGCCAGGTGATCTTGAGTTCCCCGTCGATCTTGGGCCGGCCATAGTGAGCCAGAGACTGGTCCAGGTTCTCAA
TGGACTACAGATGAGTAGAGCTTTGTCGAGCAGGAAGGCATACCTGTCCATCTTGGAGCGCCGTTCCACCGAGGTGA
GTCATCCCGAACCTGGAAGCTGTGCAGGTTTACAAAGTCCTTGAGGTCATAGGAGTCTCCCCTGCGCTGCCCTGGGC
ACCTTGGTCCTCGATCAGGAGGAACATGTGGCTCCACTTCTTGTTGTCTCGGTCTCCTGAATGGAGATGGCCATCTCA
AACTGCTCCATCCACTTCTTCTTCAATTCTCTTGTCTTGAAGAACAGCTCATAGATGTGGTCTCCTCAAAGGAGAACA
TCTGGAAGTCATGCCCGTTGGCGGTGGCATTCTCCGGATAGATGTTGCCCGGCACCGATGGCAGCGGTAGCCCTGAT
AGAAGGTACCTCTAAGCAGCATCTGACAGGCCTTGCAGTAGTTCCTGGGAAATCTTGCCCATGTCGGCCACATGGAG
GGACCCTCCCCAGACACTCCTTGTGTGCAGATCCATCTTGGGCAGACCCAGCTCATTCCTCTTTTTGTCCTGAGCCCT
GCGATGTAGTTTGTCCTTCTTCAAGGGTTGAGCCGTAGAAAGGGTCCAATGGCTCCAGGGGGTGGAGGAAGCCCGTA
GTATTCCTGAAACACCTAGTAGATGTATTTCTGCCCTCCCACCAGTTCTGTTCAGCCTCAGCCTTCGTGAGCTCCACA
ATGTCTCCACAGACAGGTCCTGAGGAGGGCCATGGACATAGGGCTTCACCCTGTTACAAGGAAACCAGCCAATTTCA
TCCCGTCCGAGCGGTTGGCCAGGATGCTCTCTGCCCCTGCCCGCTCCATGGGGCCTGCGTACCAGAGATGACCTCGA
CGTTATATTTAATGCTGATGGCAAATTCTGCTGCATCCTTCACCCTCTGCCGCACCAAGAAAGTAGCCCCCGGAAAGC
CTTTTTCTCTGTGATCCGGTACAGTCCTTCTGCTGTCATGATTTTAATGTGCTTGACAAGGTGGTGTCCAGAGACTTGA
AGCAATCCTTTAGAGAGTTCTGCTGGTAAAACTCCACCAGCTCCGTACAAAATACTTTGTGCTTCCCACTGCTGGCCT
GCTGATGGTTCTCTTTTCAGGCTCCTTGAAGGGGAACTGATGTCACCCTCCTTGAGCGACAGCTCTGATCGGTCTCGG
GCGCAGAAGTCATAGCGGGCTTTGGCTGTGCCCAGCCAACCCGGCCATAGATCTCCCCTCGCCACCAGCCTTGCTGT
CCCTTCTTGTTAAGGATCTTGATGCGTCTCTCTGCCAAGGCACCAGGGCTCAGCAGTATTCAGAATAATCTTCCTCCA
CGTAGTTGGCAGGGAAACCCGCCGGGAGCTGTCACAGCCCCTGGCTCCGCTGCCTGCCCACGCCGGGCTCAGAGCCT
GGAGTTTCTCATGTCAGGGCACATCCCGGGAGCACCGCCAGCTGGACGCTGCGCTCCTCCAGTCCATCCCAAAGTCT
CCCCTTGAGCCCCGTCTGCTTGAGGGGACCCAAGAGGAAATCGGGGTGTTATAAATTAAC

B

GCAGGTGGACAGGAAGGTTCTAATGTTCTTAAGGCACAGGAACTGGGACATCTGGGCCCGGAAAGCCTTTTTCTCTGT
GATCCGGTACAGTCCTTCTGC

FIG. 35

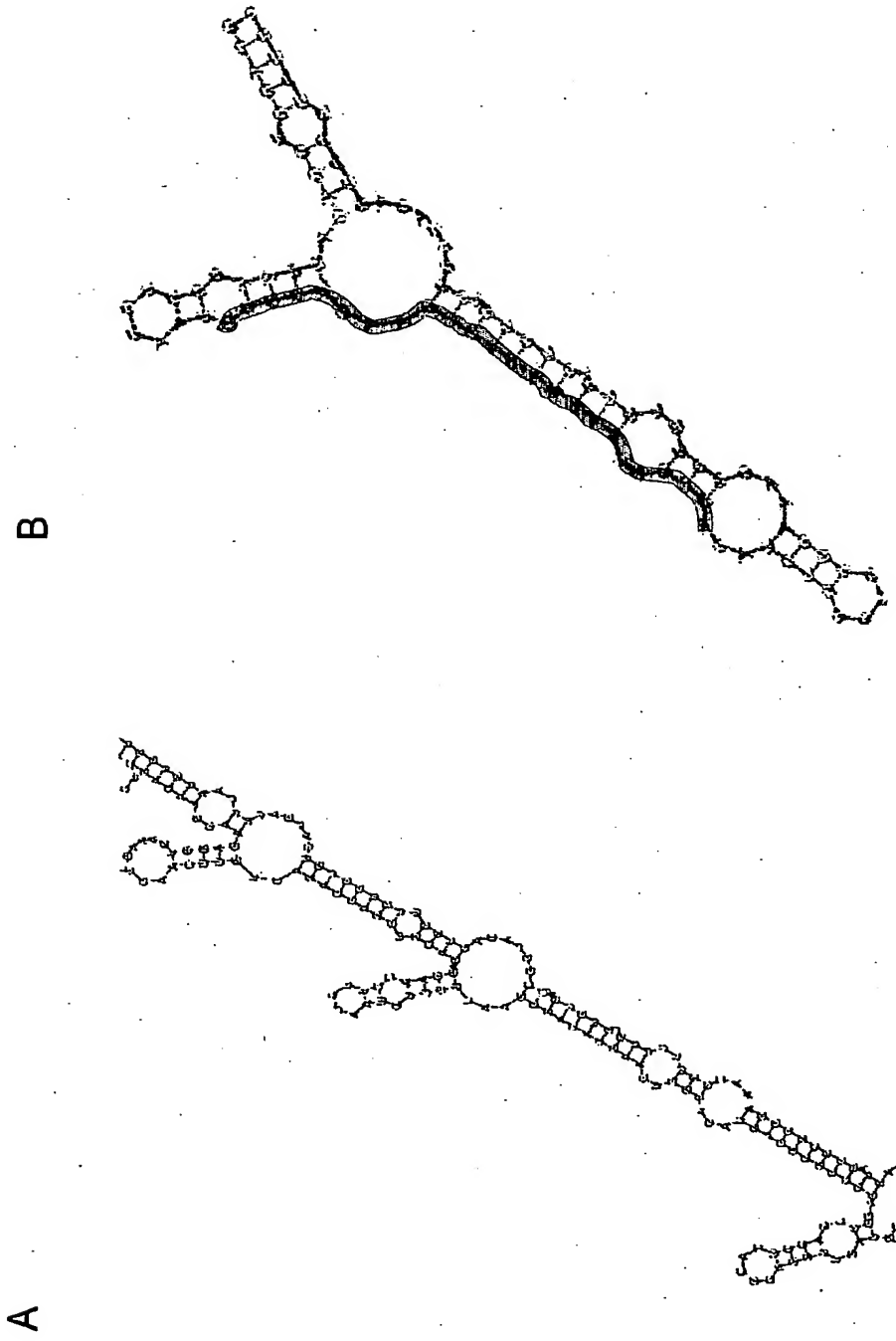


FIG. 36

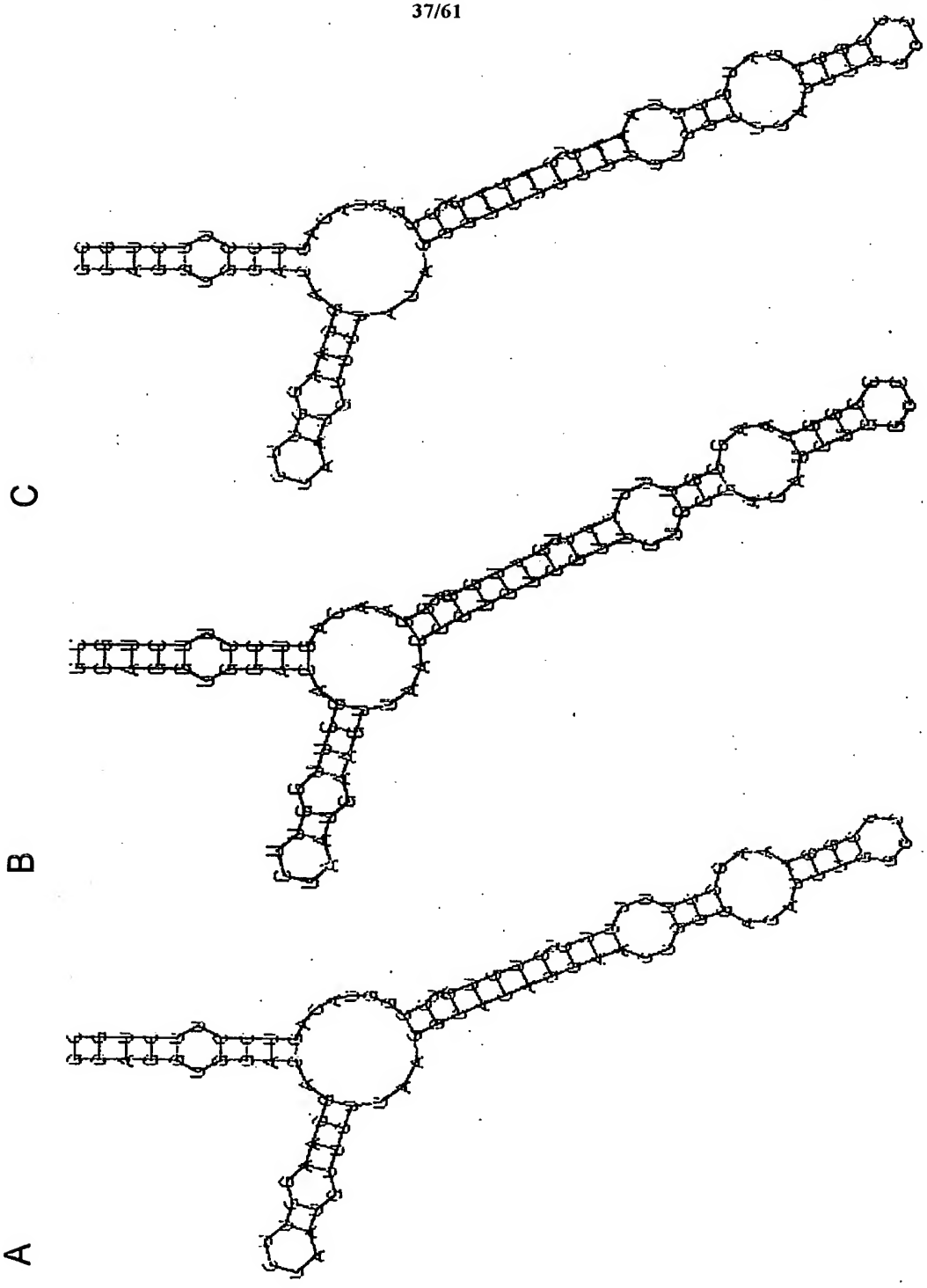


FIG. 37

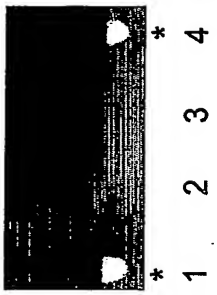


FIG. 38

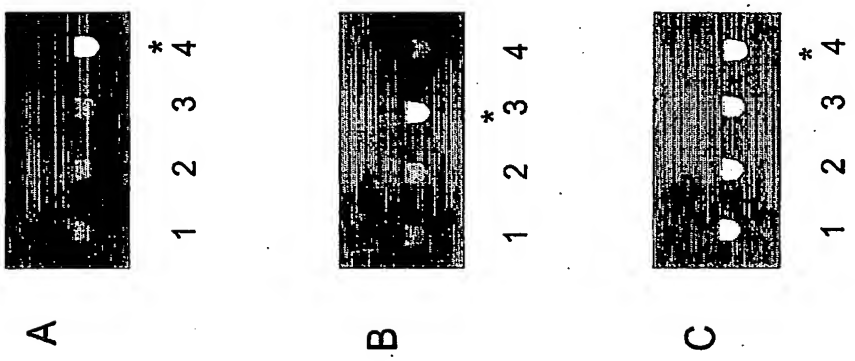


FIG. 39

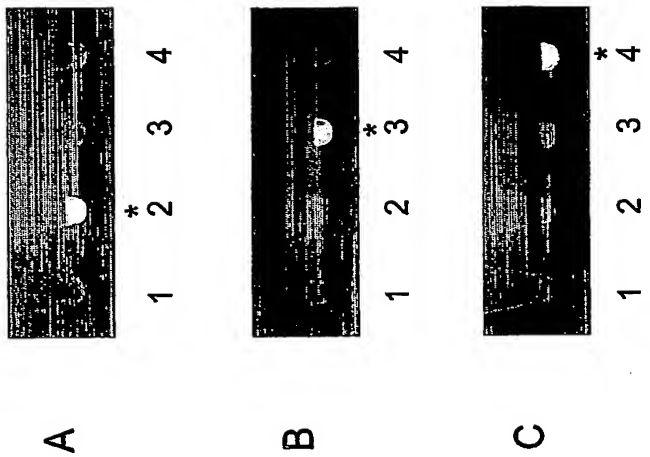
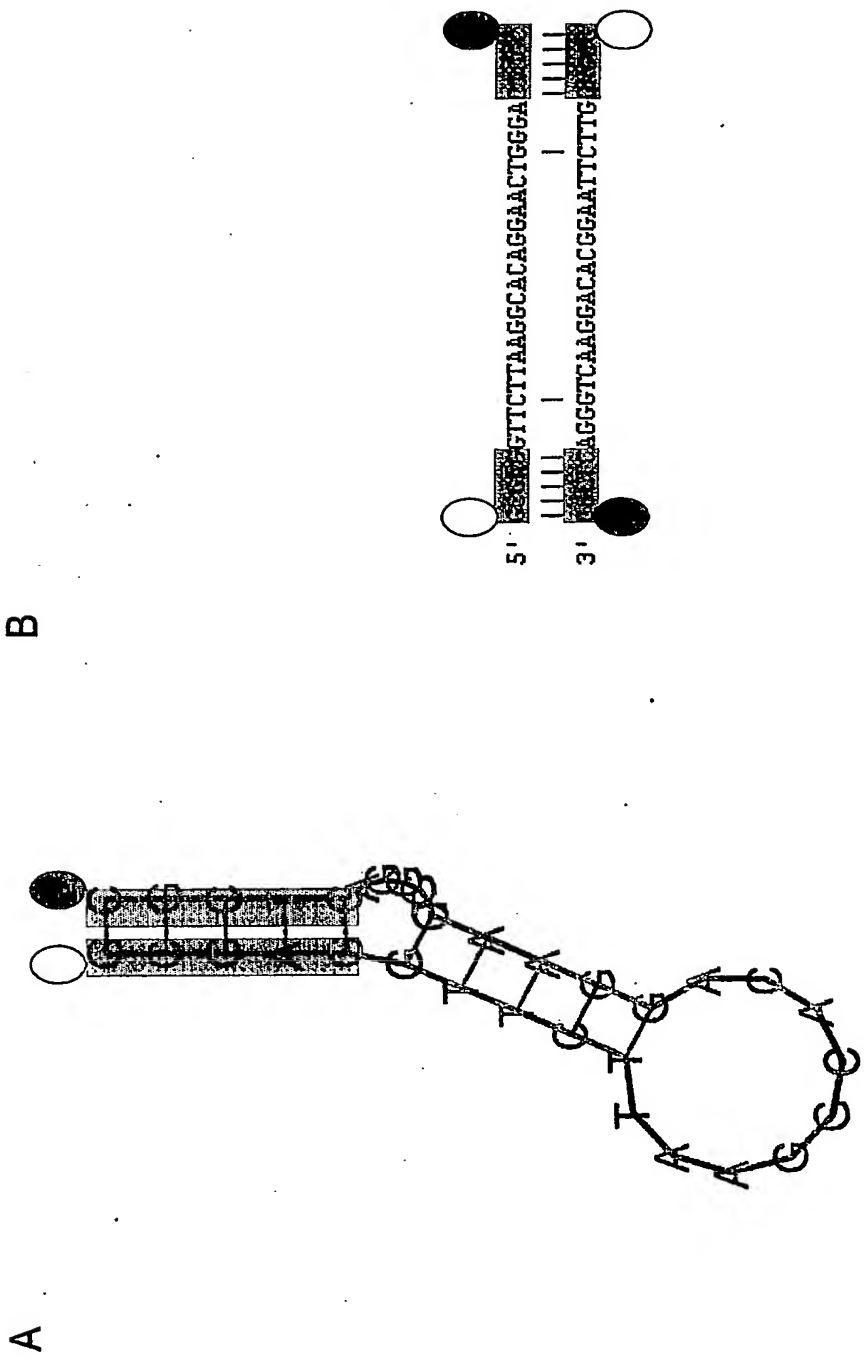


FIG. 40



FP18 5' GCGAG GTTCTTAAGGCACAGGAACTGGGA CTCGC 3'

FIG. 41

A

GCAGGTGGACAGGAAGGTTCTAAT**GTTCTTAAGGCACA**
GGAACTGGGACATCTGGGCCCGGAAAGCCTTTTTCTCT
GTGATCCGGTACAGTCCTTCTGC

B

GCAGGTGGACAGCTTGGTTCTAAT**GAAGTTAACCCTGT**
CGTTCTGCGACATCTGGGCCCGGAAAGCGTTTAACUGA
TGGAUGGAACAGTCCTTCTGC

C

GCAGGTGGACAGGAAGGTTCTAAT**GTTCTATAGGGTCT**
GCTTGTCGCTCATCTGGGCCCGGAGATGCGT
AAAGTCAGACATCCGGTACAGTCCTTCTGC

D

1	GTTCTTAAGGCACAGGAACTGGGA	
2	GAAGTTAACCCTGTCGTTCTGCGA	50% different from target 1; 66% different from target 3
3	GTTCTATAGGGTCTGCTTGTCGCT	50% different from target 1

FIG. 42

A start
GCAGGTGGACAGGAAGGTTCTAATGTTCTTAAGGCACAGGAACTGGGACATCTGGGCCCGGAAAGCCTTTTTCTCTGTGATCCGGTACAGTCCTTC
TGC

B 1
GCAGGTGGACAGCTTGGTTCTAATGAAGTTAACCCTGTCGTTCTGCGACATCTGGGCCCGGAAAGCGTTTAACTGACAGATGGGGTACAGTCCTTC
TGC

C 2
GCAGGTGGACAGCTTGGTTCTAATGAAGTTAACCCTGTCGTTCTGCGACATCTGGGCCCGGAAAGCGTTTAAC[TGACA]GATGGGGTACAGTCCT
TCTGC

D 3
GCAGGTGGACAGCTTGGTTCTAATGAAGTTAACCCTGTCGTTCTGCGACATCTGGGCCCGGAAAGCGTTTAAC[[T]]GATGGGGTACAGTCCTTC
TGC

E 4
GCAGGTGGACAGCTTGGTTCTAATGAAGTTAACCCTGTCGTTCTGCGACATCTGGGCCCGGAAAGCGTTTAACTGATGG[[AT]]GGTACAGTCCT
TCTGC

F 5
GCAGGTGGACAGCTTGGTTCTAATGAAGTTAACCCTGTCGTTCTGCGACATCTGGGCCCGGAAAGCGTTTAACTGATGGATGGAACAGTCCTTCTG
C

G modifications of sequence compared to previous sequence:
1 underlined = change in bases
2 [single bracket] = bases cut out
3 [[double bracket]] = bases added
4 [[double bracket]] = bases added
5 underlined = change in bases

FIG. 43

A

B start
GCAGGTGGACAGGAAGGTTCTAATGTTCTTAAGGCACAGGAACTGGGACATCTGGGCCCGGAAAGCCTTTTTCTCTGTGATCCGGTACAGTCCTTCTGC

C 1
GCAGGTGGACAGGAAGGTTCTAATGTTCTATAGGGTCTGCTTGTCGCTCATCTGGGCCCGGAAAGCCTTTAAGTCAGACATCCGGTACAGTCCTTCTGC

D 2
GCAGGTGGACAGGAAGGTTCTAATGTTCTATAGGGTCTGCTTGTCGCTCATCTGGGCCCGGAAAGCCTTAAAGTCAGACATCCGGTACAGTCCTTCTGC

E 3
GCAGGTGGACAGGAAGGTTCTAATGTTCTATAGGGTCTGCTTGTCGCTCATCTGGGCCCGGAAAGCGTTAAAGTCAGACATCCGGTACAGTCCTTCTGC

F 4
GCAGGTGGACAGGAAGGTTCTAATGTTCTATAGGGTCTGCTTGTCGCTCATCTGGGCCCGGAATGCGTTAAAGTCAGACATCCGGTACAGTCCTTCTGC

G 5
GCAGGTGGACAGGAAGGTTCTAATGTTCTATAGGGTCTGCTTGTCGCTCATCTGGGCCCGGAATGCGT[T]
AAAGTCAGACATCCGGTACAGTCCTTCTGC

6
GCAGGTGGACAGGAAGGTTCTAATGTTCTATAGGGTCTGCTTGTCGCTCATCTGGGCCCGGA[[G]]ATGCGT
AAAGTCAGACATCCGGTACAGTCCTTCTGC

H
1 underlined = change in bases
2 underlined = change in bases
3 underlined = change in bases
4 underlined = change in bases
5 [single bracket] = bases cut out
6 [[double bracket]] = bases added

FIG. 44

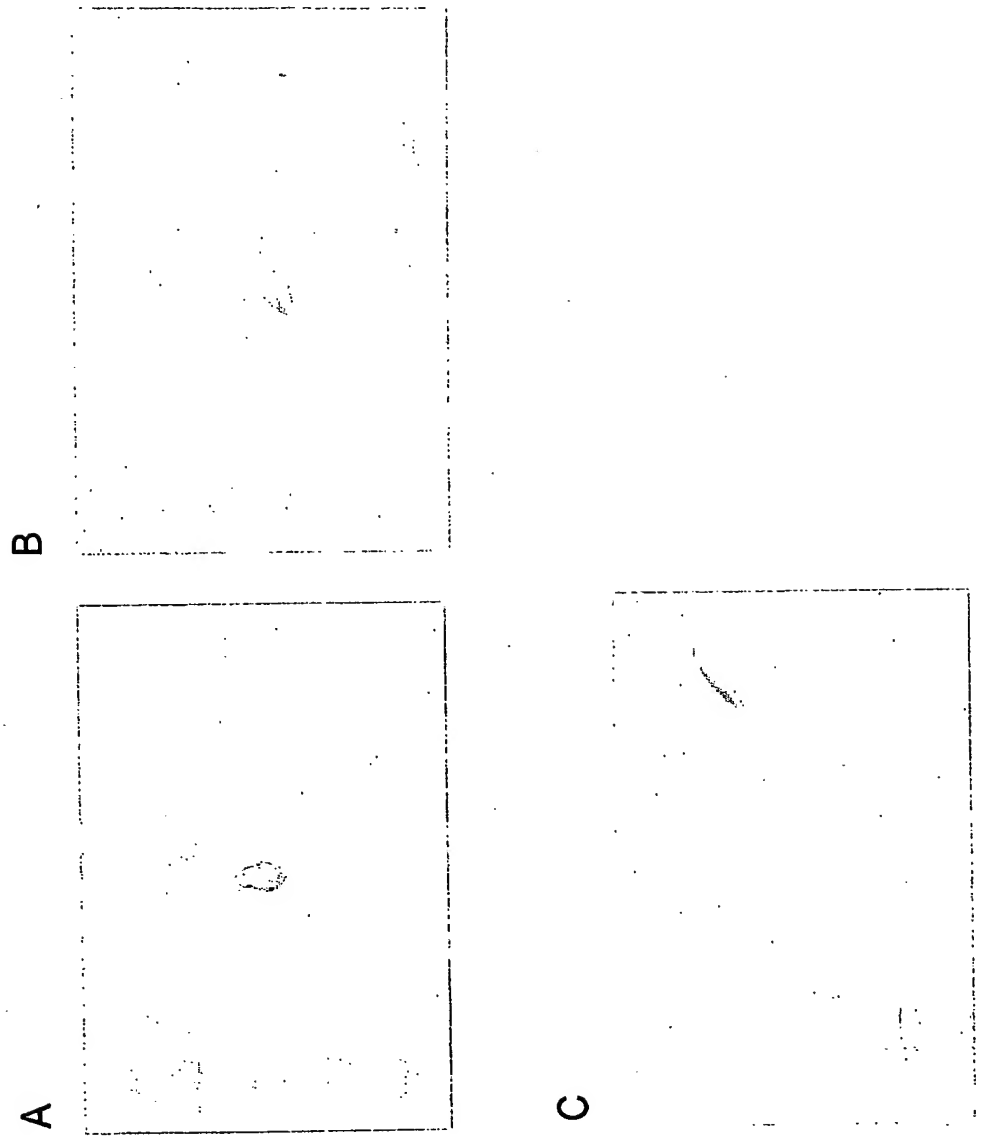


FIG. 45

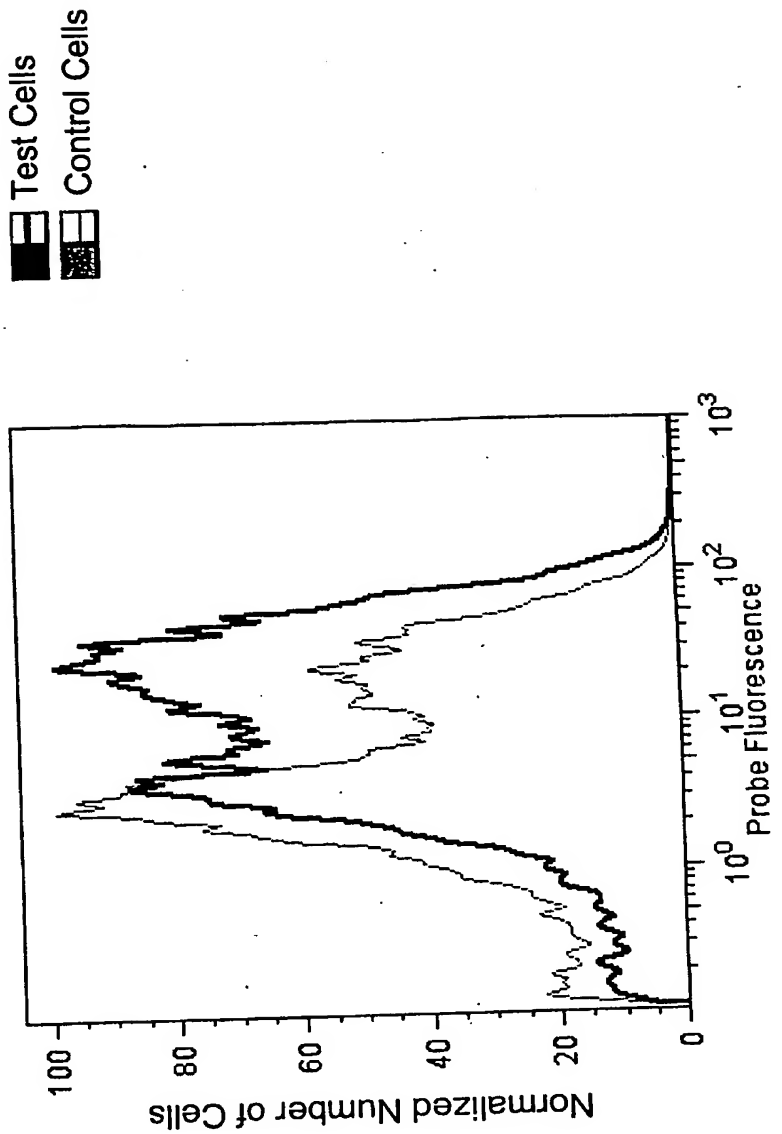

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 46 mcon1

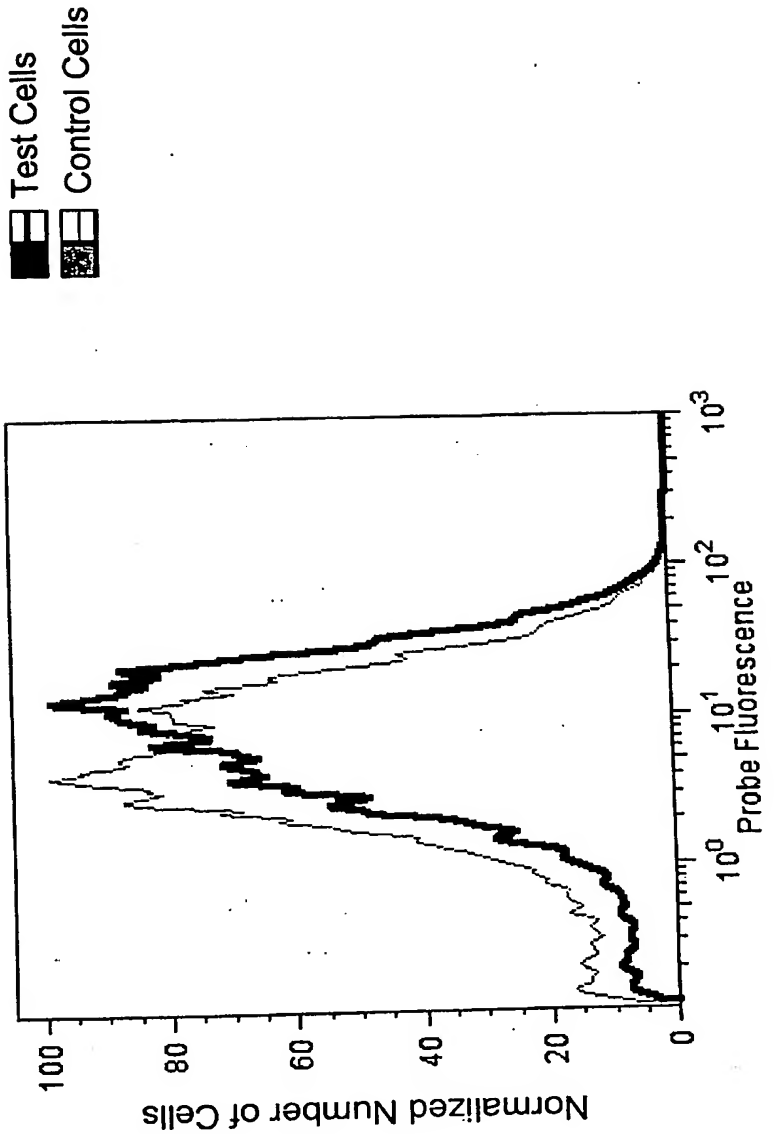

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 47 mcon2

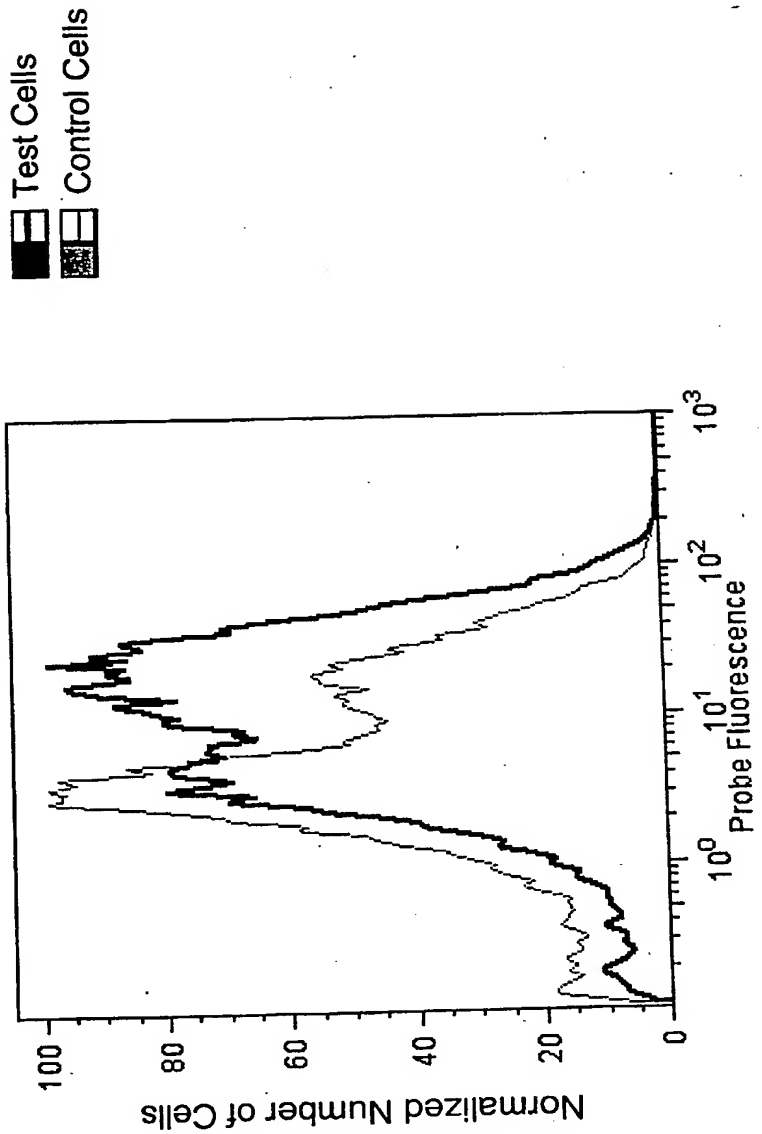

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 48 mcon3

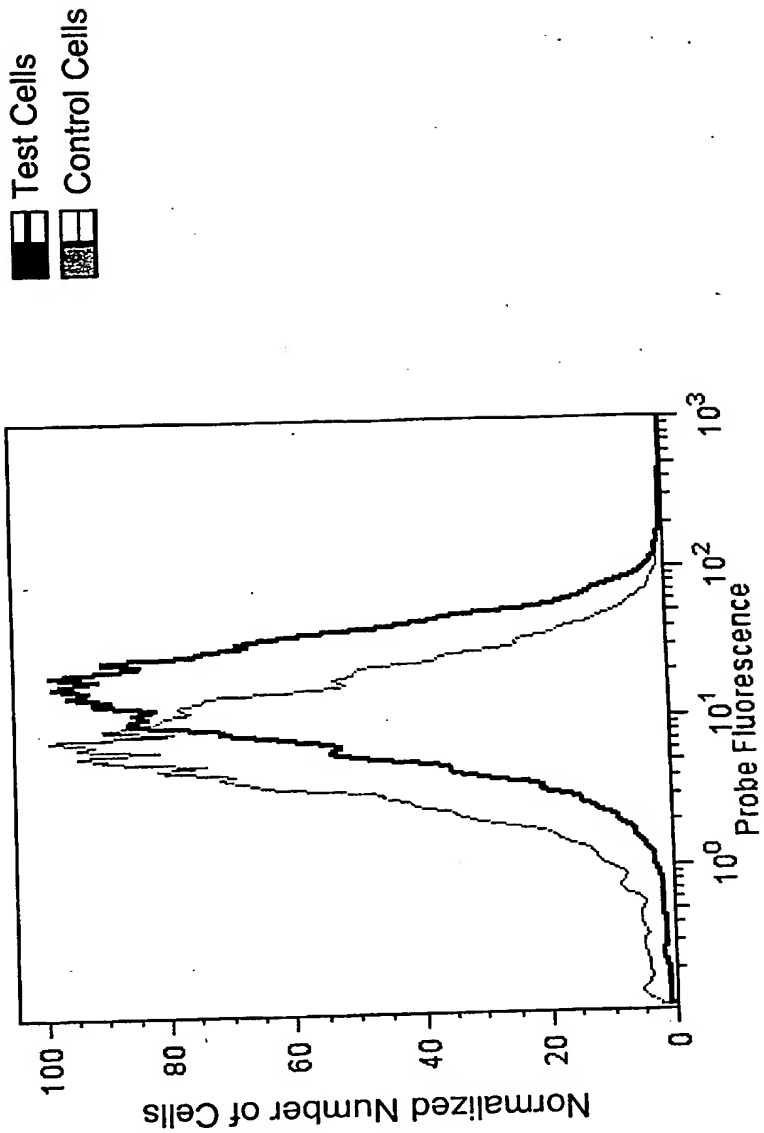

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 49 mcon4

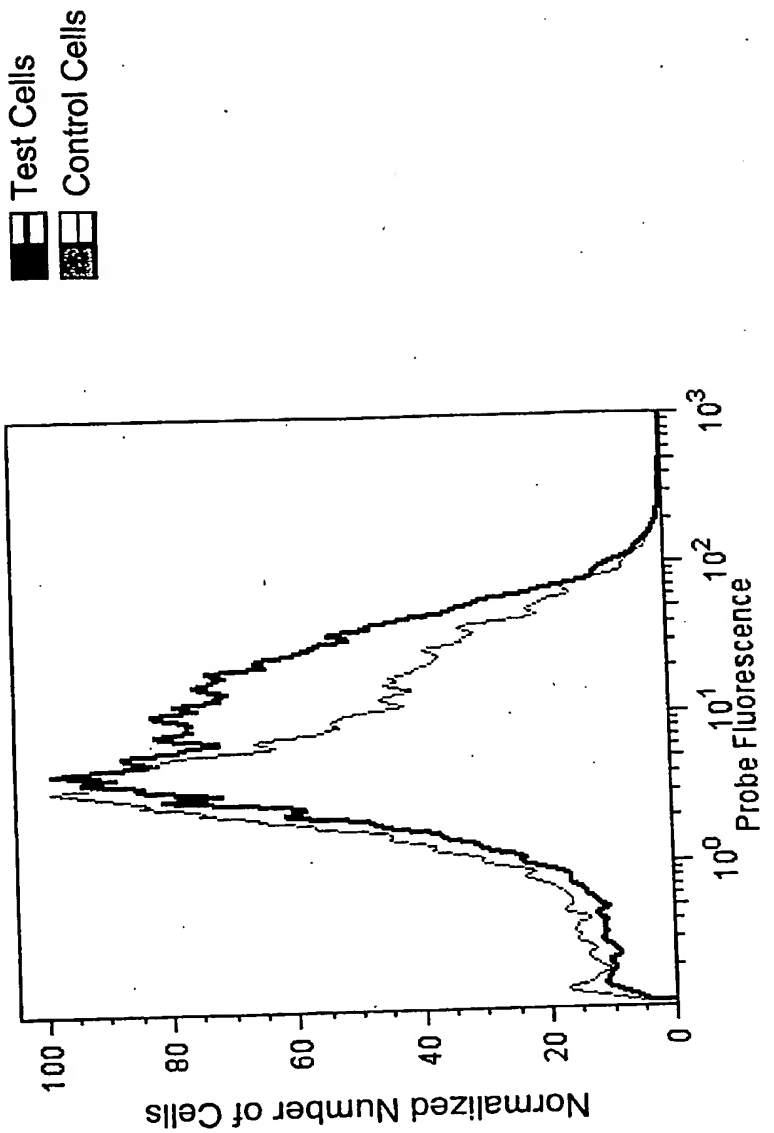

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 50 mcon5

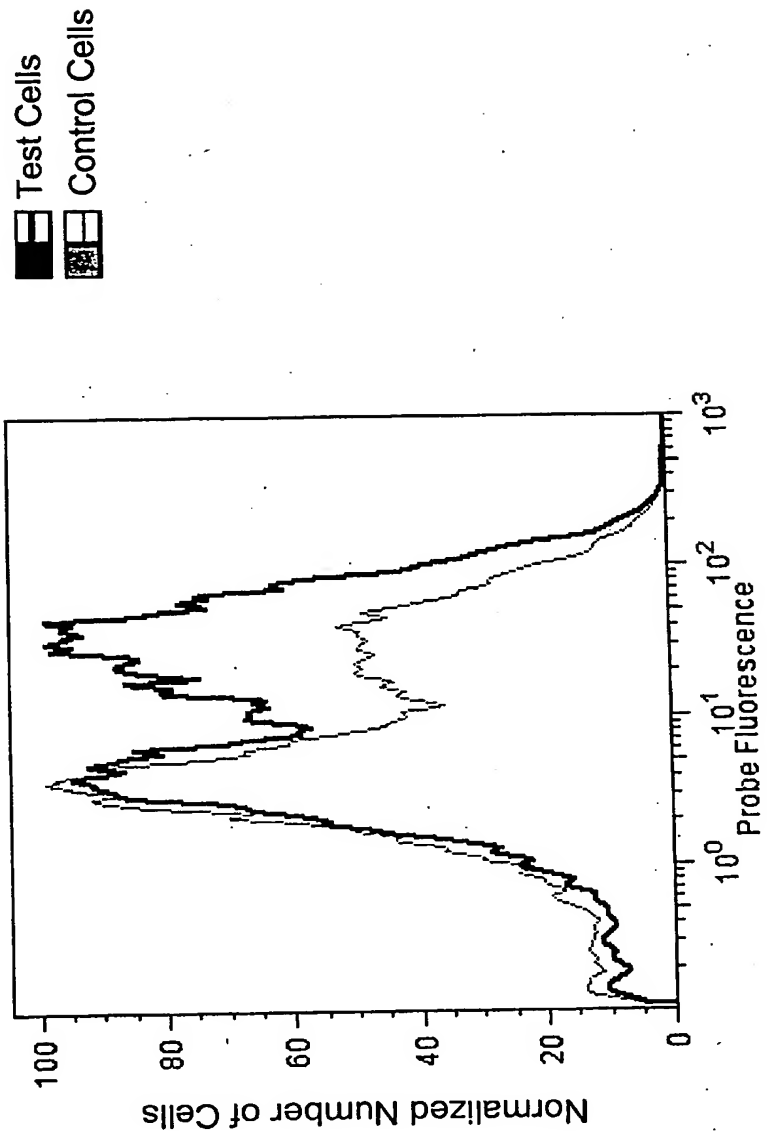

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 51 mcon6

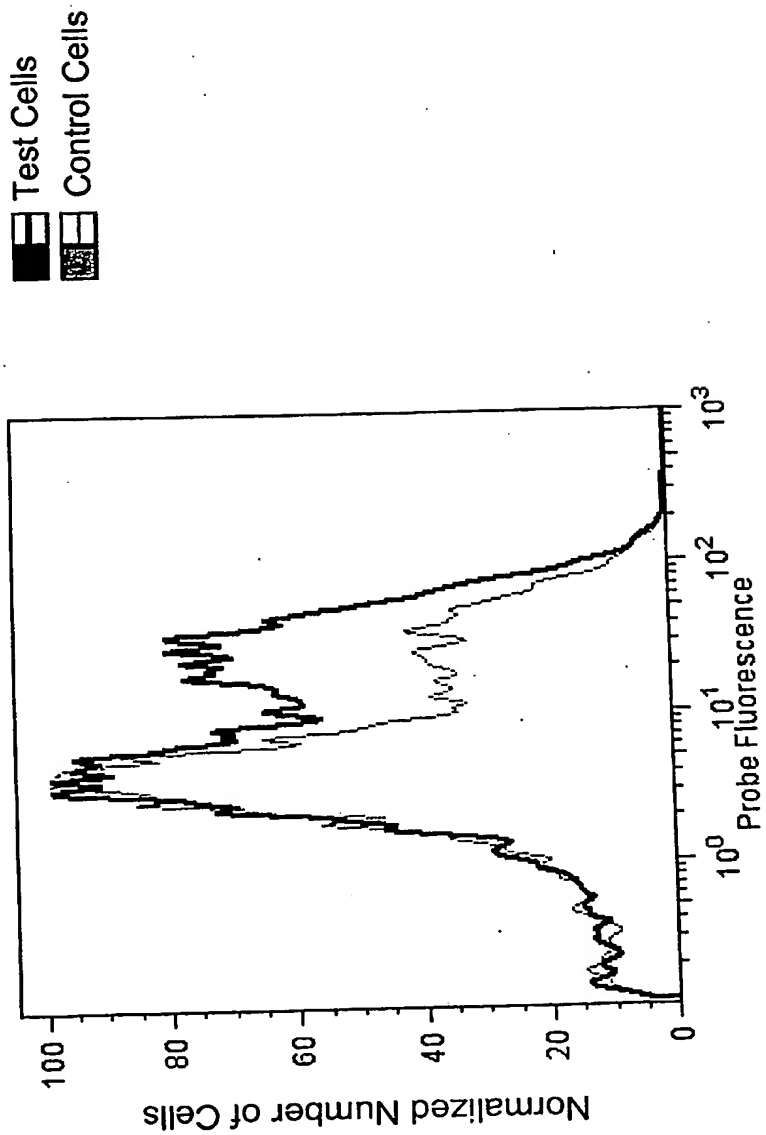

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 52 mcon7

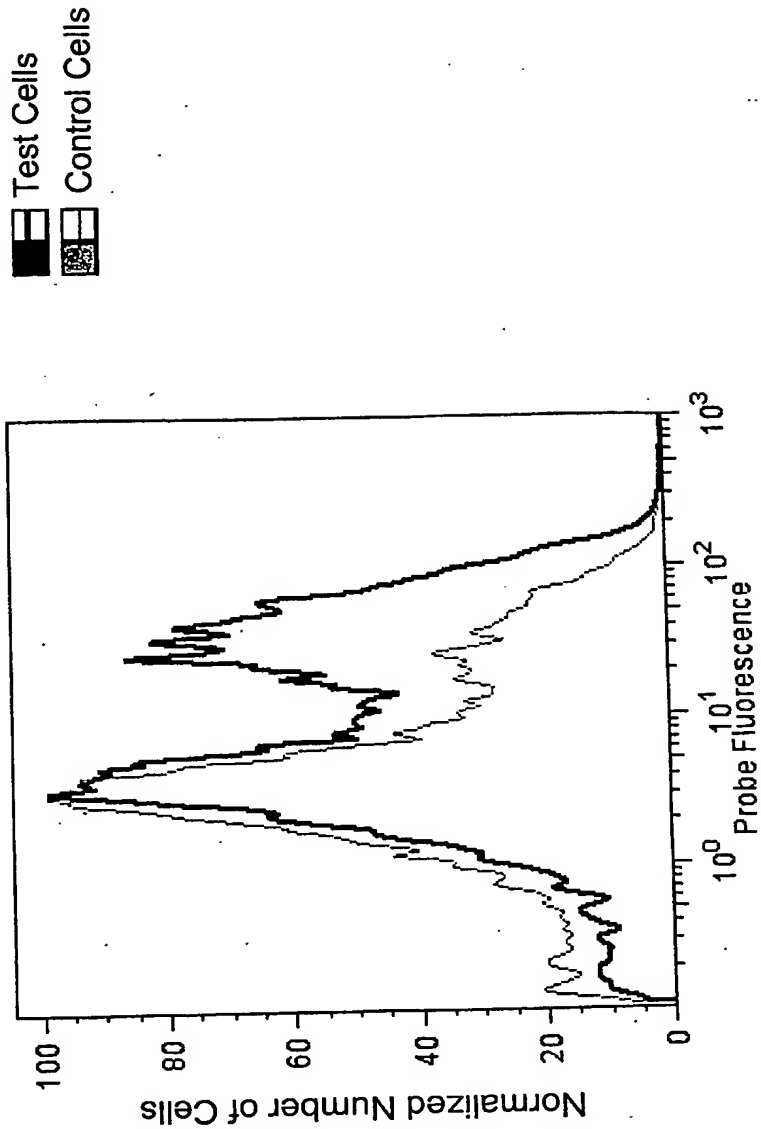

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 53 mcon8

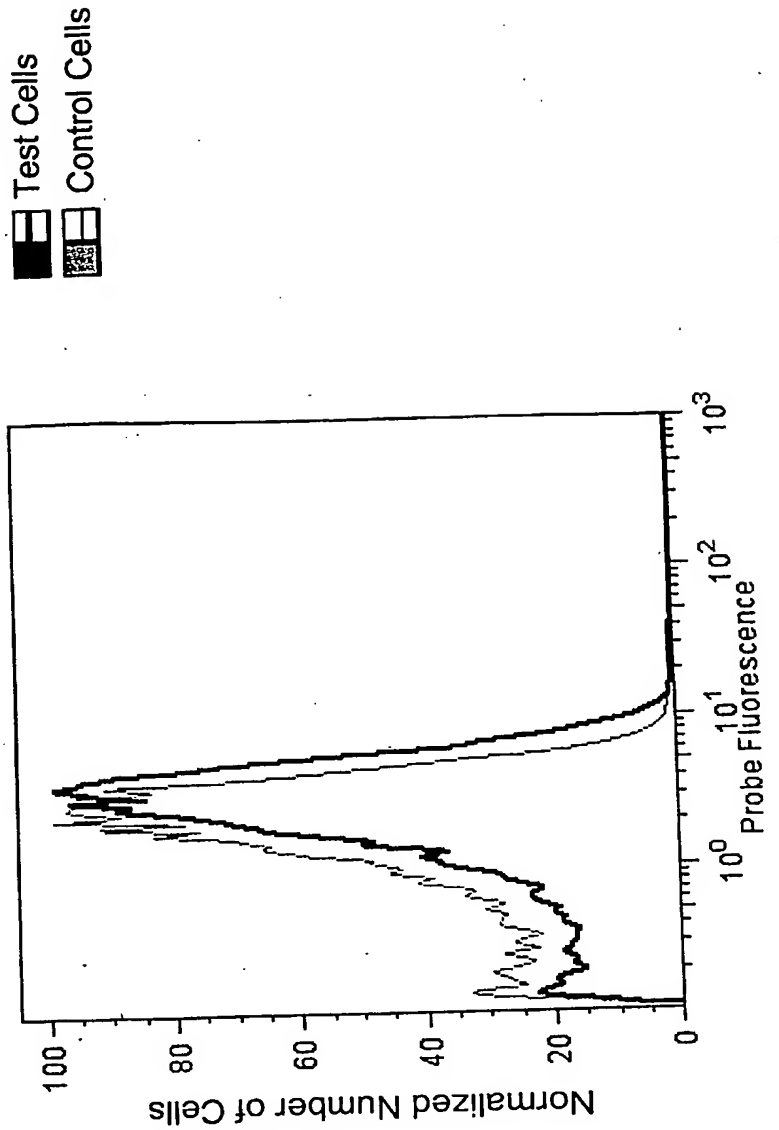

Test Cells
Control Cells
Normalized Number of Cells
0
20
40
60
80
100
10^0
10^1
10^2
10^3
Probe Fluorescence

FIG. 54 mcon9

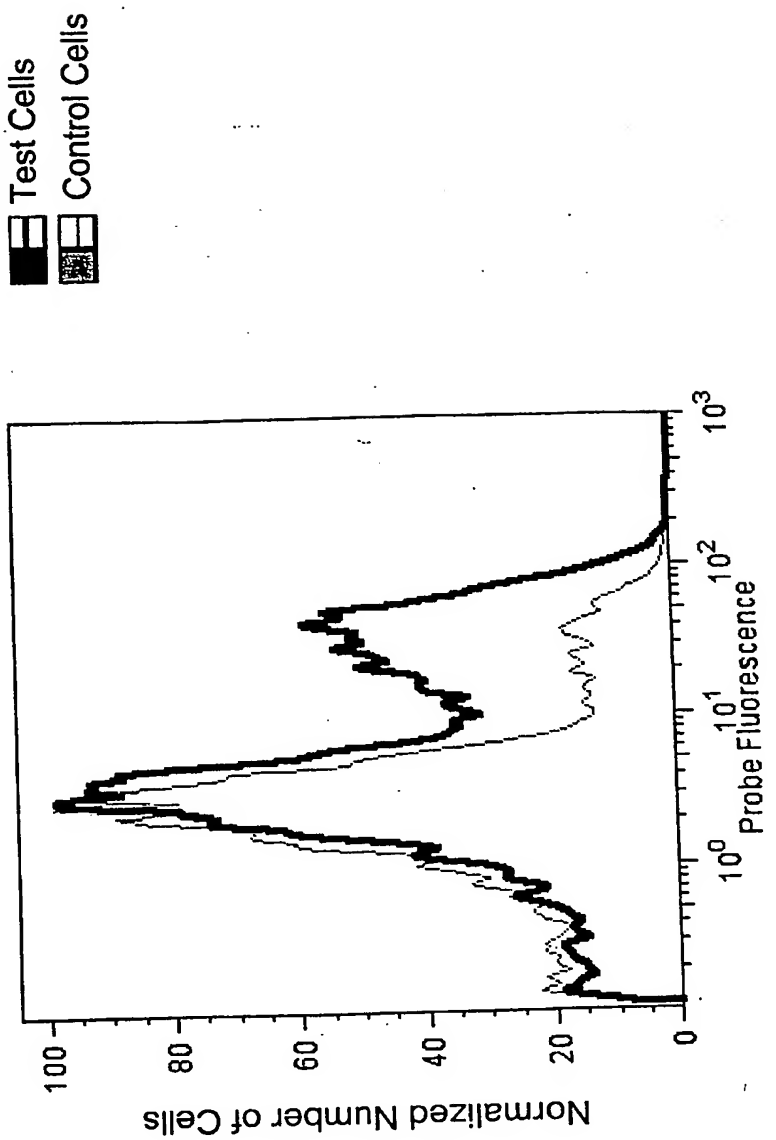


FIG. 55 mcon10

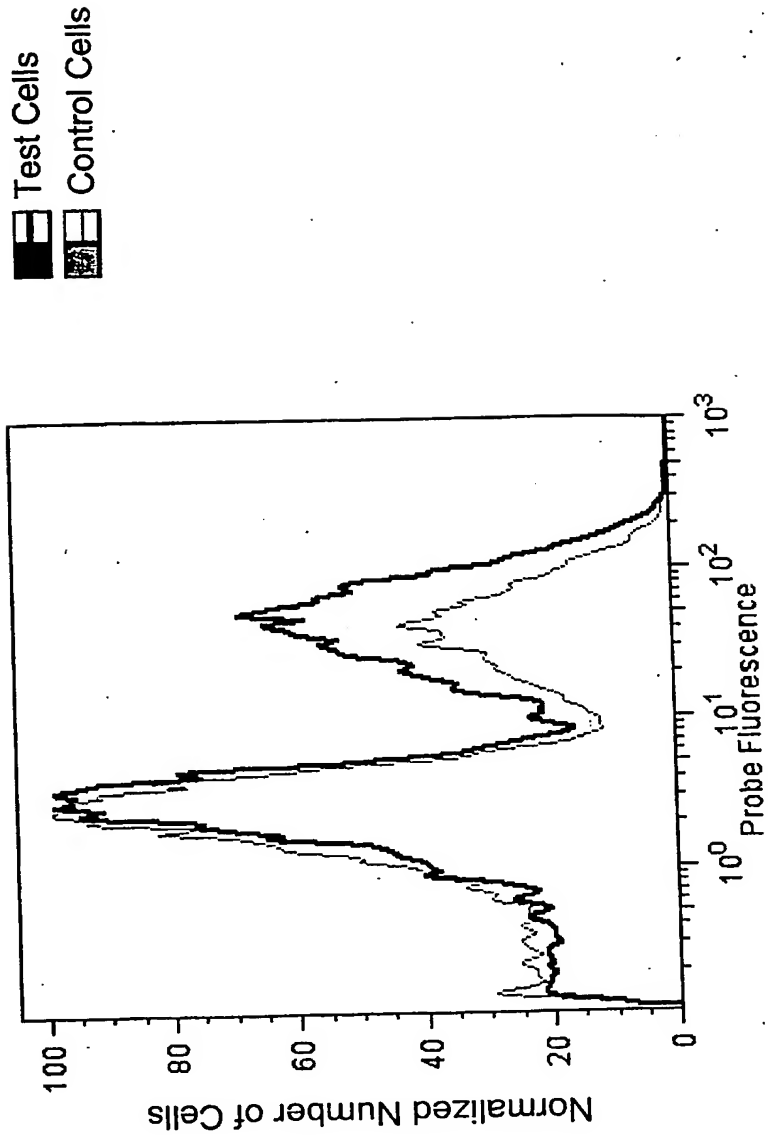


FIG. 56 mcon11

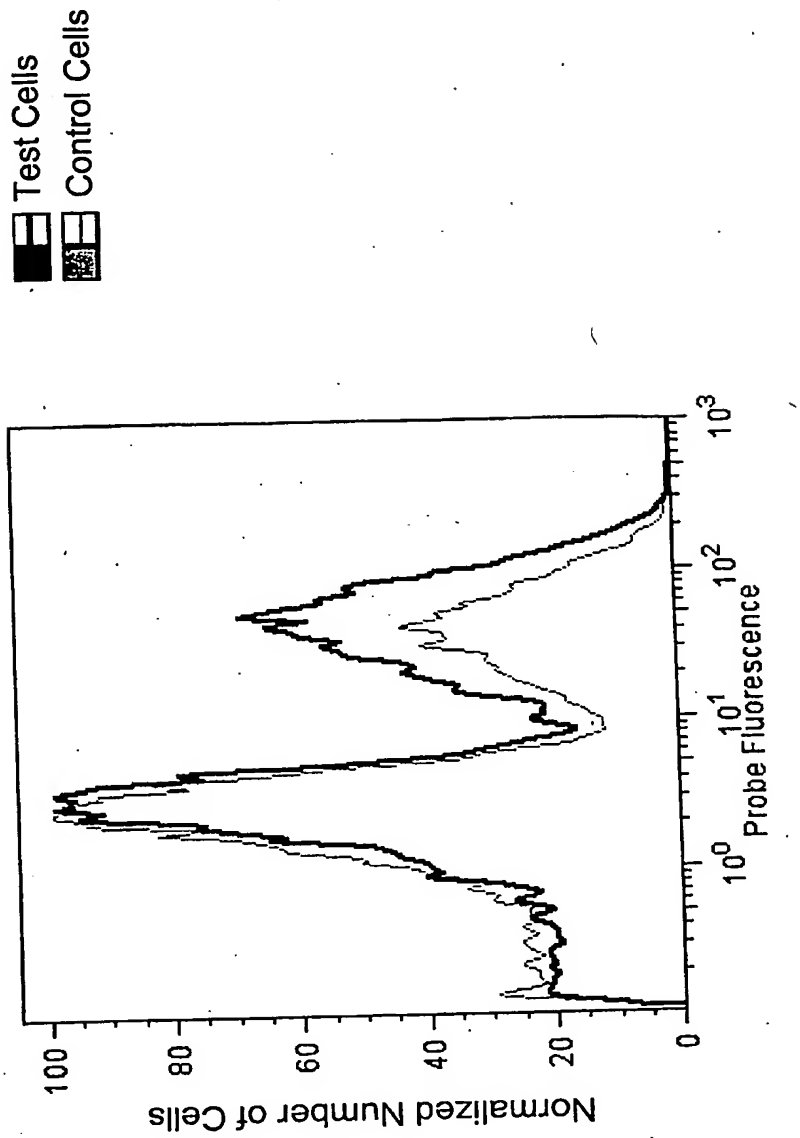


FIG. 56 mcon11

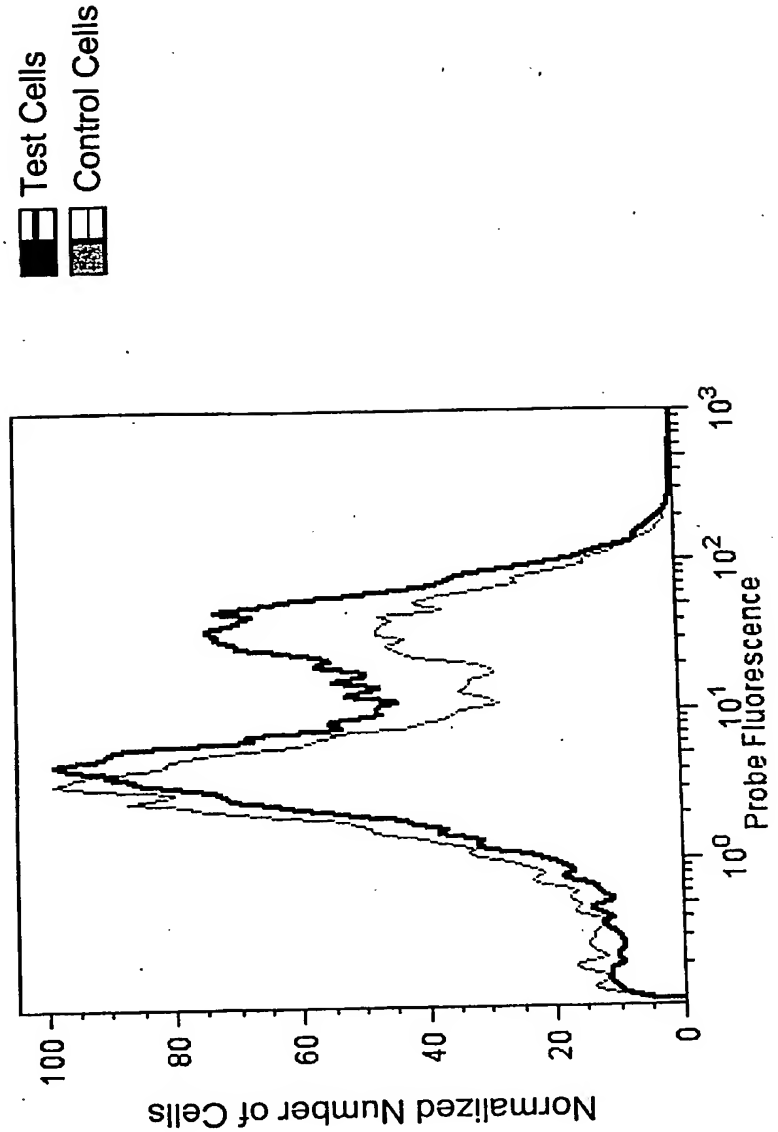


FIG. 57 mcon12

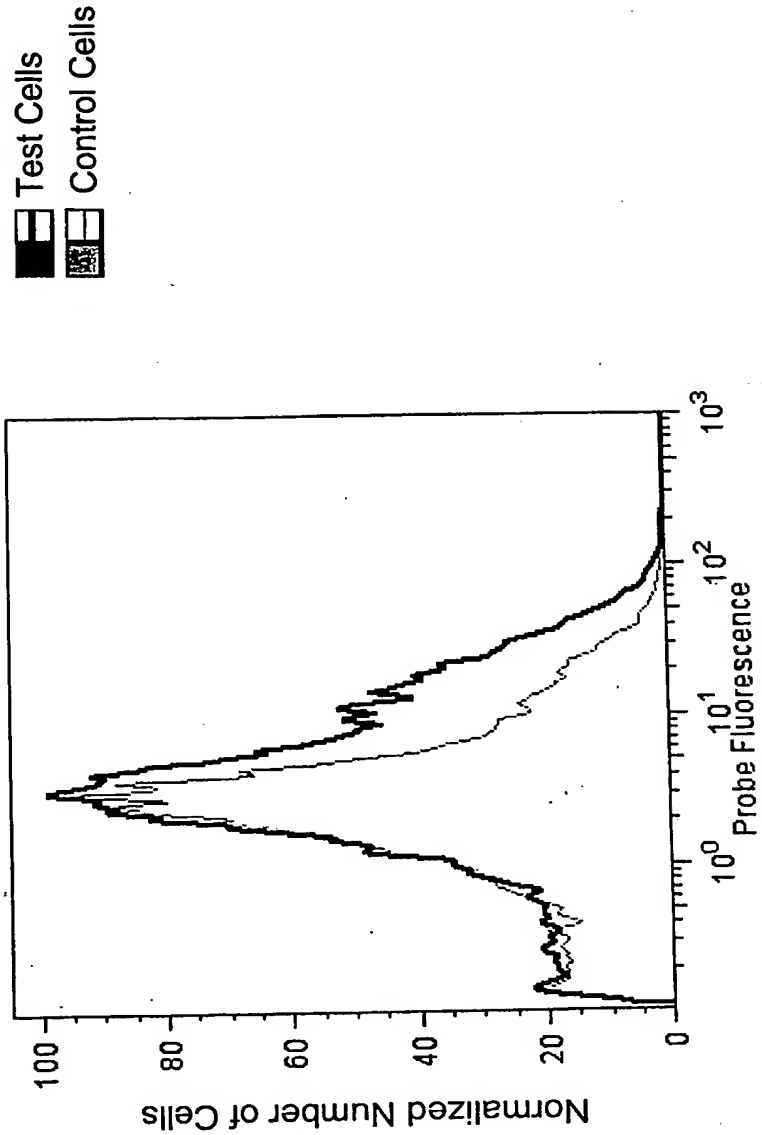


FIG. 58 mcon13

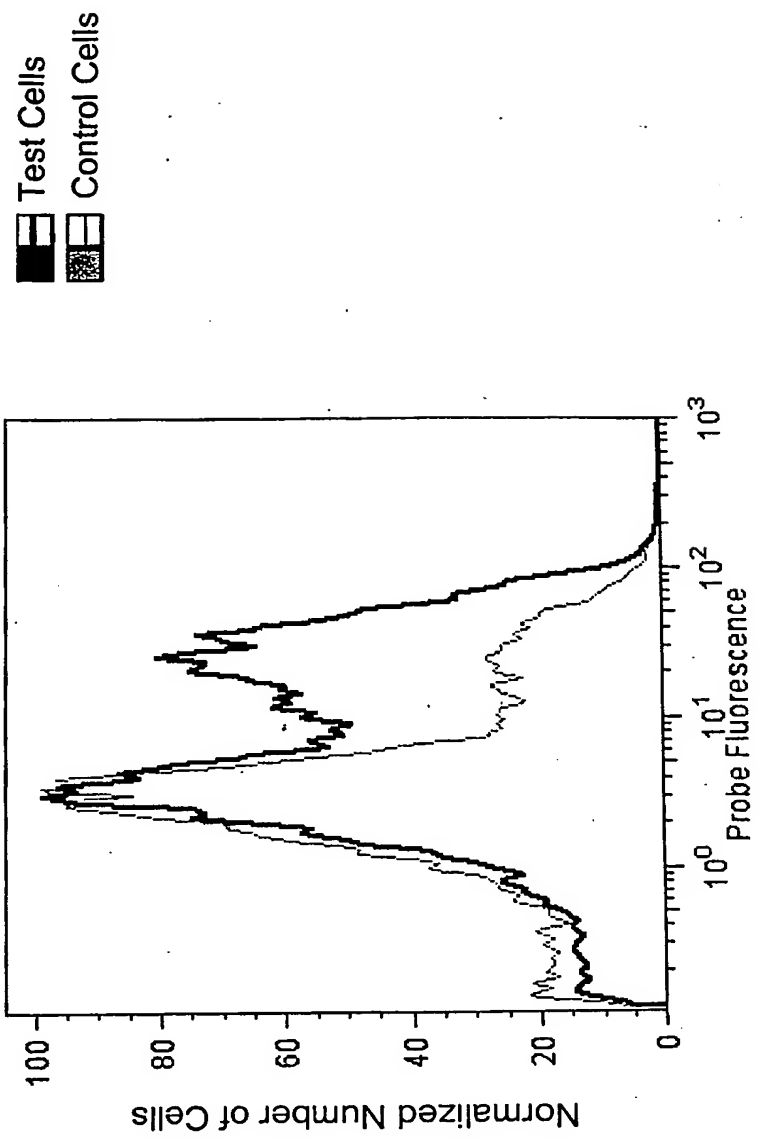


FIG. 59 mcon14

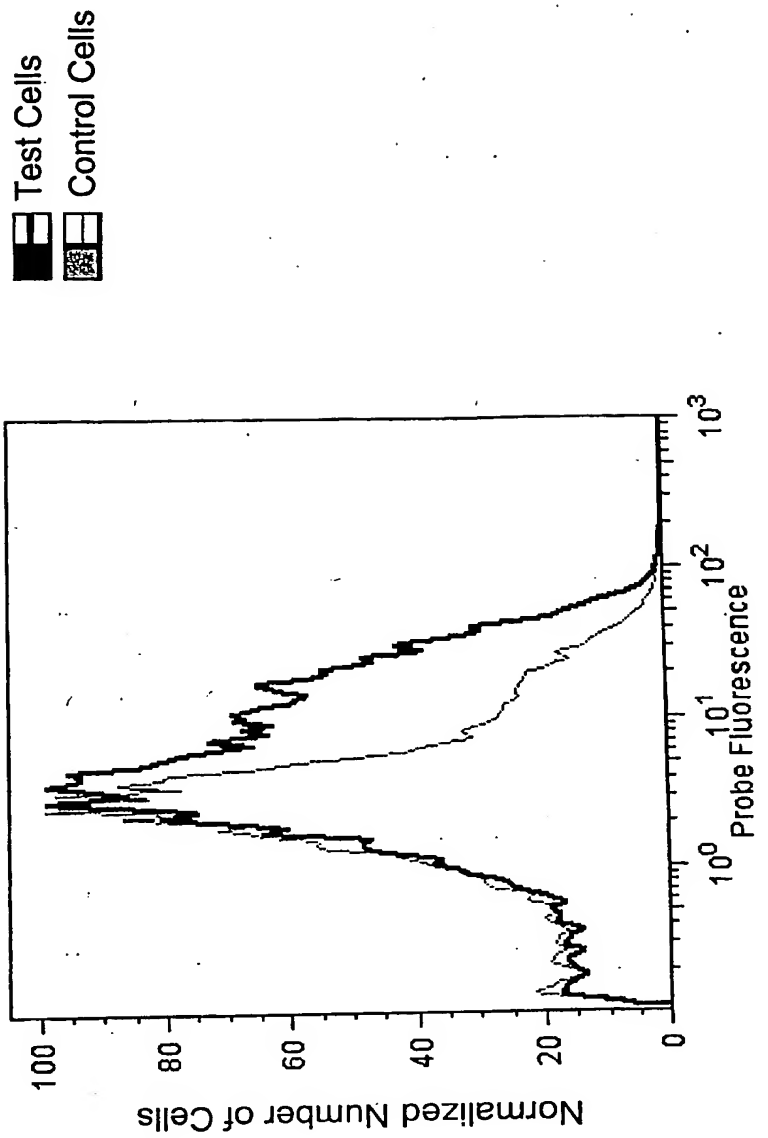


FIG. 60 mcon15